

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 695.—Vol. XVIII.

LONDON, SATURDAY, DECEMBER 16, 1848.

[PRICE 6D.]

GREAT HEWAS CONSOLS MINE, near ST. AUSTELL, CORNWALL.—TO BE SOLD, BY PUBLIC AUCTION, at the RED LION HOTEL, TRURO, on Wednesday, the 20th day of December next, at One o'clock in the afternoon (unless previously disposed of by private contract, of which due notice will be given), from FORTY to ONE HUNDRED and NINETY (of 190ths) SHARES, or the ENTIRETY, as may be then and there determined, of the MINE, with the MATERIALS, TINSTUFF, and LEAVINGS thereto belonging.

The mine is forked only to the 44 fathom level; and, notwithstanding the recent very low price of tin, has been, even at that level, nearly paying her cost for many months past; and, with the important discoveries lately made at the adit and shallow levels, the vast extent of tribute tin ground already seen in the levels, not yet cleared for working, and the rise in the price of tin, there can be no doubt of this mine becoming a most profitable investment, and that with a very little further outlay.

There is an engine, of 66-inch cylinder, at work, which is sufficiently powerful to drain the mine 100 fathoms deeper, or 30 fathoms below the present bottom level.

Water-wheels are erected, capable of working from 60 to 70 heads of stamps; the pit-work, &c., is new, and the whole plant of materials suitable for carrying out the mine on an extensive scale.

A large proportion of the present adventurers are of the highest respectability, and the course thus adopted is not from an unwillingness on their part to carry out the mine, but from a cause quite unconnected with themselves, and to which they very reluctantly submit—*satifactory proofs* of which will be given at the time of sale.

The sale will be free of every liability beyond the purchase; and to capitalists, or to a few persons who might wish to join in a safe undertaking, an opportunity is thus afforded but rarely to be met with.

Further particulars may be known on application to Richard Pearce, Esq., Penzance; the agents on the mine; or to Mr. William Browne, auctioneer, Charlestown, St. Austell, Cornwall.—Charlestown, Nov. 27, 1848.

PEMBROKESHIRE.—SALE OF VALUABLE FREEHOLD ESTATES, CONTAINING RICH MINES OF IRONSTONE, AND ANTHRACITE COAL.

MR. H. P. GOODE has been favoured with instructions to OFFER FOR SALE, BY PUBLIC AUCTION, at the RUTZEN HOTEL, NARBERTH, on Thursday, the 21st day of December, 1848, at the hour of One in the afternoon, in Ten Lots (subject to such conditions as will be then and there produced), THE FOLLOWING

VERY IMPORTANT ESTATES,

Situate in the parish of SAINT ISSELLS, and within the immediate neighbourhood of SAUNDERSFOOT AND TENBY.

LOT I.—The rich productive FARM of TREBERTH, comprising a farm-house and offices, and 120 A. 1 R. 20 P., or thereabouts, of excellent land, in the occupation of Mr. Benjamin Pugh (now aged about 48), under a lease for his life granted about 40 years ago, at the low yearly rent of £80. The land is full of IRON ORE and COAL of the best quality, excepted out of the lease, and into which a level has already been driven from the sea through the Hean Castle estate. This lot is beautifully situated, and commands splendid views of the picturesque scenery of Hean Castle and Tenby Bay, and is near Saundersfoot Harbour and Railway, and about a mile from the London and Hobb's Point mail-road.

LOT II.—TWO SMALL TENEMENTS adjoining lot 1, with gardens and three fields, containing together 4 A. 1 R. 9 P., or thereabouts, in the several occupations of Mary Williams and John Rees, as tenants from year to year, at rents amounting to £6 10s. per annum. This lot also possesses rich mines of ironstone and coal.

LOT III.—TWO COTTAGES, with office and land, containing together 23 A. 1 R. 5 P., or thereabouts, in the several occupations of George Phelps, Sarah Morris, and Thomas Thomas, at yearly rents together amounting to £7 4s. per annum.

LOT IV.—FIVE VALUABLE FIELDS adjoining Lots 2 and 3, in the occupation of Isaac Phelps, as tenant from year to year, at the low yearly rent of £2 4s. 6d. This lot is capable of great improvement.

LOT V.—A COTTAGE, GARDEN, and OFFICES, and SEVERAL CLOSES OF LAND, containing together 6 A. 1 R. 12 P., or thereabouts, in the occupation of John Davis (aged about 49), under a lease for his life, at the low yearly rent of £4. Also, a close of land in the occupation of Joseph Callaghan, at a yearly rent of £20, exclusive of the wood, which is in hand. This lot is very rich in minerals, and can be worked by the same engine-power as lot 1, with a very little further outlay.

LOT VI.—HARRY STUMP FARM, in the occupation of Mary Thomas, with a wood adjoining, containing together 25 A. 0 R. 40 P., or thereabouts, of very rich land, held by her as tenant from year to year, at the low yearly rent of £20, exclusive of the wood, which is in hand. This lot is very rich in minerals, and can be worked by the same engine-power as lot 1, with a very little further outlay.

LOT VII.—The very compact and valuable FARM of EROX HILL, with excellent farm buildings, containing by admeasurement 45 A. 3 R. 35 P., or thereabouts, in the occupation of Mr. John Morgan, as tenant from year, at the yearly rent of £36. This farm is beautifully wooded and sheltered, and the views from the grounds are peculiarly pretty.

LOT VIII.—A COTTAGE, GARDEN, and TWO FIELDS adjoining lot 9, in the occupation of Mr. Davies (aged about 50), under a lease for his life, at the low yearly rent of £4.

LOT IX.—KILLAWEN FARM, in the occupation of Mr. George Hughes, as tenant from year to year, at the yearly rent of £40, comprising a capital farm-house and premises, and 56 A. 3 R. 37 P., or thereabouts of very good land, beautifully situated, and well watered. This lot adjoins Bonville's Court; it contains the rich veins of coal and iron now so profitably worked upon that estate, and possesses beautiful sites for villas.

LOT X.—STONE'S CROSS, a very rich productive FARM, containing 20 A. 0 R. 36 P., or thereabouts, in the occupation of Selina Griffiths Lloyd, under a lease for two lives, aged respectively 73 and 59, or thereabouts, at the very low yearly rent of £5 10s. This lot possesses many attractive sites for a villa, and is bounded on the north and west by lot 9 on the east by St. Isells's Glebe, and on the south by the much admired residence called Netherwood.

The above-mentioned estates are all situate near the sea, and are distant from Saundersfoot about 1 mile, from Tenby about 5 miles, from Pembroke and Pembroke-dock about 11, from Narberth about 6, and from Carmarthen about 22.

Few such opportunities for investment as the present have been offered to the public of estates so beautiful in surface and so rich in minerals.

Printed particulars, with lithographic plans, will be ready after the 15th November instant, and may be had at the principal inns in the neighbourhood, or of Messrs. Evans, Powell, and Co., solicitors, Haverfordwest, and Mr. H. P. Goode, land agent and surveyor, Haverfordwest.

* * For a view of the estates apply to Mr. James, Saundersfoot. Haverfordwest, November 2, 1848.

NEAR PONTPOOL, MONMOUTHSHIRE.

VALUABLE COLLIERY, BRICK FACTORY, FARM, COTTAGE RESIDENCE, &c.

TO BE LET, OR SOLD BY PRIVATE CONTRACT, all that VALUABLE and well reputed COLLIERY, called the

BLAENDARE COLLIERY,

Comprising all those VEINS of COAL called the Rock Vein, the Meadow Vein, the Red Vein, the Droidge Vein, and the New Vein, with several other veins of coal not yet opened, lying under a tract of land comprising together about 281 acres, together with certain pieces of LAND, NINETEEN WORKMEN'S COTTAGES, TWO GARDENS, AGENT'S HOUSE, WEIGHING MACHINE, SMITHIES and CARPENTERS' SHOP, STABLES, GRANARY, and OTHER CONVENIENCES, at the mouth of the level.

The above veins of coal are found under this property in high perfection, as to quality and thickness, with great facilities for gaining the same; and the colliery, when in full work, is capable of producing from 60,000 to 100,000 tons of coal per annum, or even more. Appended to the colliery are a cottage and garden, and also a close of land, called the "Boat-house Meadow," on the bank of the Monmouthshire Canal, with the dry dock, two or more smaller cottages and office, carpenters' shop, stable, gig-house, and other buildings thereon.—Also, the

BLAENDARE BRICK FACTORY.

Near to the above, with the WATER-WHEEL and OTHER MACHINERY, DRYING STOVES, TWO KILNS, and FOUR WORKMEN'S COTTAGES, and OTHER ERECTIONS thereto belonging, capable of manufacturing a million of bricks per annum.—Also, the

THIRTY LABOURERS' COTTAGES.

Near the Brick Factory, let upon lease of 21 years, at £70 a year, with TWO COTTAGES, STABLES, &c., let for a term, of which 12 years are unexpired, at a ground rent of £2 per annum.—Also, the

BLAENDARE FARM.

Comprising a pleasantly situated and neat COTTAGE RESIDENCE, called "Blændare Cottage," with three sitting-rooms, gardens, stabling, coach-house, and other offices, and about EIGHTY-EIGHT ACRES of capital MEADOW and PASTURE LAND, being part of the before-mentioned 281 acres, together with a TRACT of MOUNTAIN LAND adjoining, called "Mynydd Maen," on which growing may be had.

The whole of the above properties, which lie contiguous to each other, are of freehold tenure, and are known by the general name of the BLAENDARE ESTATE, and are situate in the several parishes of PANTAEAGUE and MONTHTUSLOINE, in the county of MONMOUTH, at a short distance from the excellent market town of Pontypool, and within half a mile of the new line of locomotive railway, intended shortly to be extended into and through this property, and now nearly finished, between Pontypool and Newport, which is the port of shipment for the produce of the colliery, and from which it is only nine miles distant.

In addition to the valuable veins of coal above-mentioned, the Blændare Estate abounds in IRON ORE and FIRE CLAY, of the best quality, and offers a very desirable site for the erection of iron-works thereon.

There is a valuable STONE QUARRY on the estate, with a railway communication thereto.—Also, the

TROBANT HOUSE and COTTAGES, and TWO ACRES of rich MEADOW LAND, with coach-house, three-stall stable, and open stable garden, &c., in the occupation of Mr. W. J. Monkhouse, in the parish of Trevechin, and county of Monmouth.—Also, the

NINETEEN CANAL BOATS, ONE HUNDRED and FIFTY-TWO TRAM WAGGONS, and about FOUR MILES of RAILROAD, with OTHER MOVEABLES, to be taken at a valuation.

Possession of the colliery and brick factory may be had on the 1st of January next, and of the cottage residence, farm, and lands, on the 2d of February next.

Two-thirds of the purchase-money might remain on mortgage.

For further particulars apply to the proprietor, J. Maund, Esq., Ty Mawr, near Abercavenny; to Wm. Llewellyn, mineral agent, Pontypool; Mr. W. J. Monkhouse, Trobant House, near Pontypool; or to Messrs. Gabb and Secretan Woodhouse, solicitors, Abercavenny—at whose offices, as well as at Mr. Llewellyn's, the maps and scale of coal and mines may be seen.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of MR. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS.

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 8-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-roads, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrair Iron-Works," near Newport, Monmouthshire.

COAL.—TO BE SOLD, OR LET, a valuable COAL MINE, the property of Sir Thomas G. Hesketh, Bart., situate about five miles from the important manufacturing town of BLACKBURN, in the township of Great Harwood, in the county of Lancashire. The mine has been recently proved, and found, at 77 yards from the surface, to be 5 feet in thickness, and of excellent quality. It is commonly called, or known by the name of, the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots.

A section of the borings may be seen by applying to Mr. Boosie, Rufford Hall, Ormskirk; to Mr. Whittle, coal viewer, Charnock Richard, Chorley; to either of whom proposals may be sent.

TO BE SOLD, OR LET ON ROYALTY, the DARLSTON GREEN COLLIERY AND IRONSTONE MINES. In the district of SOUTH STAFFORDSHIRE, now working by the "Galvanised Iron Company."

These MINES comprise about 26 acres, held under lease, of which about 23 years are unexpired. They contain all the measures of IRONSTONE usually found in that locality—the excellence of the quality of which is well known, and a small portion of the New Mine Coal, the greater portion of which has been worked. The mines have recently been opened, and drained at a considerable expense, and are now in complete working order. There are a sufficient number of shafts sunk on the estate to get the whole of the mines; and a very trifling outlay will open the measures of ironstone which are not now at work.

The PUMPING and WINDING-ENGINES are perfectly EFFECTIVE, and all the PLANT in EXCELLENT REPAIR. The Birmingham Canal runs into the estate, and there is abundant demand for the produce of these mines at the surrounding iron-works.

For further particulars, apply at the office of the Galvanised Iron Company, 3, Mansion-house-place, London; or to Mr. Taylor, King Hill-ford, Darlaston.

TO BE SOLD, OR LET ON LEASE (FREEHOLD), the PHENIX IRON-WORKS, WEST BROMWICH. In the district of SOUTH STAFFORDSHIRE, at present carried on by the "Galvanised Iron Company."

These WORKS, which are amongst the most eligible and complete in the district, comprise the following MILLS and FORGES:—

1. An ENGINE, of 100-horse power, by Boulton and Watt, in brick engine-house, with two 35-foot boilers, and all the requisite machinery, of the best description, recently erected, driving a forge; a 20-inch BOILER-PLATE TRAM, and a RAIL MILL—appended to which is a small ENGINE, of 40-horse power, with two PUNCHING and STRAIGHTENING MACHINES for RAILS—complete.
2. An ENGINE, of 60-horse power, by J. and G. Davis, in brick engine-house, with three 25-foot boilers, of powerful machinery, driving a forge; an 18-inch BOILER-PLATE and SHEET MILL, and a 16-inch TRAM, for the manufacture of Bars, T Iron, and Angle Iron. Attached to this work is an ENGINE, of 20-horse power, on cast-iron frame, driving a small 8-inch MERCHANT TRAM, SAW, and TURNING-LATHE.

With these Mills and Forges are 34 PUDDLING and HEATING FURNACES—the whole standing on about two acres of freehold land, bounded by the main road on one side, and by the Birmingham Canal on the other, on which are the necessary wharves for the use of the works.

The capacity of the works is equal to about 350 to 400 tons of finished iron weekly.

Adjoining the works, on a separate tract, are a MANAGER'S HOUSE, with about FIVE ACRES of LAND, and FOUR WORKMEN'S HOUSES.

There is an extensive assortment of ROLLS, for the manufacture of the various descriptions of iron for which these works have been long known, and for which there is an extensive and established connection—the whole forming a most complete and valuable establishment for the supply of manufactured iron in all its branches.

For further particulars, apply either at the offices of the Galvanised Iron Company, 3, Mansion-house-place, London; or to Mr. Spencer, on the premises.

EXTENSIVE AND VALUABLE MINERAL PROPERTY AND IRON-WORKS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT.

THE VENALL COAL AND IRON-WORKS.

Situate on the south side of the RIVER NEATH, GLAMORGANSHIRE, about 8 miles from the port of Neath, and 14 from the port of Swansea, with all the necessary appendages for carrying on the smelting of iron, and an extensive shipping trade of stone coal and stone coal culm.

The property comprises long leases of coal and ironstone, extending over about 3000 acres of land, in a ring fence, which are taken on favourable terms. The coal is authentic, and the veins, of an aggregate thickness of about 25 feet, are effectually opened by level, for the supply of 100 to 200 tons per day.

The ironstone veins are abundant and rich, and sufficiently opened by level to yield an ample supply for three furnaces. There is also valuable black-band, extending over a large acreage.

The works consist of an engine-house for a pair of engines, one 50-horse high-pressure blowing engine, two blast-furnaces, with all the necessary hot-blast stoves, casting-houses, foundry, finery, &c.

The works and colliery are in operation, and any person who may be desirous of purchasing, will be treated with on liberal terms.

Reports recently made on the property, by Messrs. John Southan, of Bilston, and W. P. Street, of Swansea, may be seen, on application to Messrs. Jevons and Wood, Neath; Messrs. Llewellyn and Randall, solicitors, Neath; or to Messrs. Rowland, Hacon, and Rowland, solicitors, 38, Threadneedle-street, London.

VALUABLE STEAM COAL COLLIERY.—TO BE SOLD, BY PRIVATE CONTRACT, the VALUABLE STEAM COAL COLLIERY OF BURRARD, near NEWCASTLE-ON-TYNE. The royalty adjoins those of West Hartley and Carr's Hartley Collieries, and contains the same description and quality of coal.

A pit has been sunk to the steam coal seam, and, for a trifling expenditure, a large quantity of coals may be worked. The extent of royalty is upwards of 1000 acres, and there will, it requires to be added, 300 to 400 acres of high main coal, well known in the London market as Killingworth Wall's End, and which is now in current working.

The COLLIERY comprises all the plant, machinery, houses for workmen, screens, &c., of a first-rate colliery, capable of working from 80,000 to 100,000 tons of coal per annum. The distance from the shipping docks, on the River Tyne, is about six miles, to which the coals are conveyed at a moderate rate.

The rapidly increasing demand for steam coal renders this a most desirable investment.

For further particulars and terms, apply to Mr. Nicholas Wood, Killingworth office, Newcastle-on-Tyne.—Newcastle, Dec. 13, 1848.

STEAM TO INDIA AND CHINA, via EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PANANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th of every month; and from Suez on or about the 10th of the month.

BOMBAY.—Passengers for Bombay can proceed by this company's steamers of the 29th of the month, to Malta, thence to Alexandria by her Majesty's steamers, and from Suez by the Honourable East India Company's steamers.

MEDITERRANEAN.—MALTA.—On the 20th and 29th of every month. CONSTANTINOPLE.—On the 29th of the month. ALEXANDRIA.—On the 20th of the month.

SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th, 17th, and 27th of the month.

For plans of the vessels, rates of passage-money, and to secure passages, and ship cargo apply at the company's offices, No. 127, Leadenhall-street, London; and 57, High-street Southampton.

NOTICE TO SHIPPERS OF GOODS AND PARCELS, per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS, to INDIA AND CHINA.—GOODS and PARCELS sent direct to the company's parcel office, on or before 6 p.m., on the 17th of each month, are forwarded at less cost to shippers than when sent through any intermediate channel. Cases must not exceed 112 lbs. weight each, for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No package for India or China can, under any circumstances, be shipped at Southampton, unless it be cleared through the Custom-house, and placed alongside the steamer by noon on the 15th of each month.

Detailed particulars can be obtained on personal application, or by writing. Parcel Department, 127, Leadenhall-street.

WANTED.—New, or in good condition—ONE HUNDRED and SEVENTY-FIVE YARDS of 10-inch PUMP TREES, with CAPSTAN, WIND, and T-BOSS, &c., for two lifts.

FOR SALE.—an ATMOSPHERIC WINDING-ENGINE, 18-horse power, with winding apparatus complete.—Apply to Peter Harris, Brierley Hill, Staffordshire.

STEAM-ENGINE.—WANTED, a 70 or 80-horse PUMPING ENGINE, with 10 yards of 16-inch pumps.—Apply to Mr. Capper, engineer, Bir mingham.

LOCOMOTIVE PUMPING-ENGINE FOR SALE.—This small ENGINE, with boiler and every thing complete, can be erected and set to work in 24 hours; it will draw the stuff from the mine, and fork the water to the 20 fm. level, at a cost of only 2s. 9d. per day for fuel; it is well adapted for proving lodes, without driving any adit—price £75 delivered, or fixed, with the necessary building made portable, for £100.—Apply to C. S. Richardson, Engineer, 5, Whitefriars-street, London.

STEAM-ENGINE FOR SALE.—TO BE SOLD, a 12-horse power HIGH-PRESSURE STEAM-ENGINE, with or without boiler, quite new.

Also, a CORNISH BOILER, between 8 and 9 tons, quite new.

A WATER-WHEEL, 36-feet diameter, 4-feet breast, with wrought axle, cast-iron sockets, plumber blocks and brasses, nearly new.

Also, other SECOND-HAND MINING MATERIALS. Apply to J. E. MARE, Plymouth Foundry.

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 30 to 30 per cent. per annum, whilst those on the eve of doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

MR. THOS. P. THOMAS, MINING AGENT, AND DEALER IN RAILWAY, GAS, BANK, INSURANCE, AND OTHER SHARES. 3, GEORGE-YARD, LOMBARD-STREET, LONDON.

T. P. THOMAS is a SELLER of SHARES in the leading MINES of Cornwall, Devon, and Wales—paying from 10 to 30 per cent.—Statistical information afforded upon personal application, or by letter.

MR. GEORGE BATE, JUN., CIVIL ENGINEER AND SURVEYOR, WOLVERHAMPTON. Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

JAMES LANE, MINING SHARE DEALER, 80, OLD BROAD-STREET, LONDON.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms; they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.—6, Bank Chambers, opposite Bank of England.

BANWEN IRON COMPANY.—Notice is hereby given, that an EXTRAORDINARY SPECIAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Tuesday, the 19th day of December inst., at Two o'clock precisely.

By order, S. F. HARRIS, Secretary.

BEDFORD UNITED MINES.—DECLARATION OF DIVIDEND.—Notice is hereby given, that a DIVIDEND of FIVE SHILLINGS per share on the shares of these mines, will be PAYABLE at this office on Friday, the 22nd December inst., and every succeeding Friday, between the hours of Eleven and Three o'clock, to such shareholders as shall give notice to the secretary personally, or by letter, of their intended application, two clear days before either of the above-named days of payment.

By order of the meeting of shareholders, held this day, 5, Threadneedle-street, Dec. 14, 1848. G. KIECKHOFFER, Secretary.

RUNNARD COOMBE MINE, BUCKFASTLEIGH, DEVON.—Mr. BROUGHTON is commissioned to SELL a FEW SHARES in the above valuable MINE, at 4s. per share, being much less than half their value. The above shares are offered to the public at this low price, in consequence of the holders being compelled to part with them. The mine is in full work, and raising more tin than the stamps can crush. A return is fully expected of £400 or £500, at the next January meeting.—Apply to Mr. B., 30, Taylor's-buildings, Woolwich.

ROYAL SANTIAGO MINING COMPANY.—The directors hereby give Notice, that the HALF-YEARLY GENERAL MEETING of the shareholders will be HELD at the office of the company on Wednesday, the 3d of January next, at One o'clock precisely, when the directors will make their report.

38, Broad-street-buildings, Dec. 16, 1848.

NORTH BRITISH AUSTRALASIAN COMPANY.—The ANNUAL GENERAL MEETING of the shareholders is to be HELD in the Aberdeen Hotel upon Thursday, the 29th inst., at One o'clock, for the purpose of electing seven directors for the ensuing year, and other business.

Aberdeen, Gallowgate, Dec. 6, 1848. (Signed) JOFF & SHAND.

The reports of the committee of shareholders, and of the directors, may be seen at the cashiers' offices for 14 days previous to the meeting.

A PRELIMINARY MEETING of the partners, to consider the state of affairs, will be HELD in the Lemon Tree Tavern, on Wednesday, the 27th inst., at Six o'clock, p.m.

The English shareholders are particularly requested to send a deputation to the meeting, or address communications, or their proxies, to Mr. James Anderson, at the Lemon Tree Tavern, Aberdeen, as acting for the committee of shareholders.

An ADDRESS to the shareholders will appear in the Mining Journal of next Saturday, the 23d inst.

ST. KATHARINE DOCKS.—NOTICE.—The court of directors of the ST. KATHARINE DOCKS COMPANY do hereby give Notice, that a GENERAL HALF-YEARLY MEETING of the proprietors will be HELD at the Dock-house, Tower-hill, in the county of Middlesex, on Thursday, the 18th of January next, at Twelve o'clock at noon, for the purpose of declaring a dividend on the capital stock of the company for the half-year ending the 31st inst., when the accounts of receipt and expenditure of the said company for the year ending the 31st inst. will be laid before the proprietors, which accounts will be ready for examination or inspection by such proprietors on and after Thursday, the 4th day of January next.—The books of the company will close on Saturday, the 23d inst., and open on Saturday, the 27th day of January next.

By order of the court, JOHN HALL, Secretary.

St. Katharine Dock-house, Dec. 12, 1848.

N.B.—The chair will be taken at One o'clock precisely.

GADAIR MINING COMPANY.—At an Adjourned Meeting of the adventurers, held at the Queen's Arms Hotel, Cheapside, pursuant to notice, on Thursday, the 14th day of December, 1848.

G. W. BLANCH, Esq., in the chair.

The objects of the meeting having been stated by the chairman, it was unanimously resolved,—

That with the view of liquidating the claims upon the company, and also taking the necessary measures for actively prosecuting the working of the mine, that a committee be appointed to carry such into effect, and that they be empowered to call a meeting of the adventurers, on giving 10 days' notice, to make their report thereon.

Resolved, that such committee do consist of Messrs. Blanch, Miller, J. Truscott, Molyneux, D. L. Williams, N. Truscott, and H. English.

G. BLANCH, Chairman.

The thanks of the meeting were given to the chairman.

LAMHEROEE WHEEL MARIA MINING COMPANY.—At a General Meeting of the adventurers, held at the offices of the company, No. 4, King-street, Cheapside, on Thursday, the 14th December,

PETER DAVEY, Esq., in the chair.

The notice convening the meeting was read, as also a letter from the purser, duly authorising James Crofts, Esq., as secretary, to set on his behalf.

The balance-sheet of the mine, and the company's affairs, made up to the 14th Dec., 1848, was read and passed, subject to the examination and approval of the auditors.

A list of the adventurers in default on arrears of calls, was read, whereupon it was unanimously resolved—

That the meeting be adjourned until Thursday, the 28th inst., then to be held at the offices of the company, at one o'clock precisely, to determine, at the discretion of such meeting, whether the shares upon which the said calls shall not have been paid on or before the 27th inst., be irrevocably forfeited, or the payment of the calls be enforced; and that the purser be instructed to give due notice to the adventurers in arrears, of the resolution thus adopted.

Capt. Tabb, who was present at the meeting, gave an encouraging report on the prospects of the mine, and strongly recommended the two shafts being sunk deeper, whereupon it was resolved—

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	At 10.30, New Burlington-street.	2 P.M.
MONDAY	Statistical—12, St. James's-square.	8 P.M.
	British Architects—16, Grosvenor-street.	8 P.M.
	Chemical—Society of Arts, Adelphi.	8 P.M.
	Medical—Bolt-court, Fleet-street.	8 P.M.
	Pathological—21, Regent-street, Watlington-place.	8 P.M.
TUESDAY	Linnean—Soho-square.	8 P.M.
WEDNESDAY	Society of Arts—Adelphi.	8 P.M.
	Microscopical—21, Regent-street.	8 P.M.
	Ethnological—17, Saville-row.	8 P.M.
THURSDAY	Royal—Somerset-house.	8 P.M.
	Antiquaries—Somerset-house.	8 P.M.
	Naturalists—41, Tavistock-street, Covent-garden.	7 P.M.
SATURDAY	Westminster Medical—17, Saville-row.	8 P.M.

GEOLOGICAL SOCIETY.

Nov. 29.—Sir H. T. DE LA BECHE (President) in the chair.

C. Timms, Esq., was elected a Fellow.—A paper, "On Fossil Plants from the Anthracite Formation of the Alps of Savoy," by C. J. F. Bunbury, Esq., was read. In 1829, Elie de Beaumont announced that, at Petit Cour, in the Tarentaise, beds of black schist full of impressions of ferns and other plants identical with those of the coal formation, were found interposed between beds of limestone, containing belemnites, and forming with them only one geological deposit, which he referred to the lias. M. A. Brongniart subsequently described the plants, and found 17 identical with carboniferous species, and only two peculiar. Mr. Bunbury, when in Italy, last summer, examined the collection of plants from the Tarentaise, in the Museum at Turin. The specimens are converted into a silver-white talc, which gives them a very beautiful appearance, but with the frequent distortion renders them difficult of determination. He could distinguish only 14 forms, of which nine were ferns—two decidedly identical with, and four closely resembling, characteristic coal-measure species—two calamites, one certainly a coal plant, and three annularia, of which one is distinctly, and two are probably also, found in the coal measures. In 1819, Sir H. De la Beche observed impressions of ferns and other plants in the schistose beds of the Col de Balme, near Chamounix. The beds there belong to the same formation as those in the Tarentaise, and the plants generally correspond. Among them was a *Neuropteris*, perfectly agreeing with specimens from Pennsylvania and Cape Breton. There seems thus no doubt that plants considered characteristic of the coal measures are here associated with animal remains, like those of the lias in strata alternating with each other. Several theories have been formed to explain this fact. Mr. Horner supposed that the coal plants had survived into the Liasic period, but it is well known that the intermediate formations have very distinct vegetations. M. Brongniart believed them to have been drifted here from some other region; but it is difficult to imagine that, in this case, they should have been confined to only one locality, and the plants are also too well preserved to have been drifted far. M. Michelin supposed that the belemnites might not be confined to the newer formations, but that a species might have lived even in the carboniferous epoch.

"On the Geology of the Neighbourhood of Oporto, including the Silurian Coal and Slates of Vallongo," by D. Sharpe, Esq. The town of Oporto stands on a band of granite, four or five miles wide, on which mica slate and gneiss rest on both sides. To the eastward these rocks are overlaid by a band of sedimentary rocks, chiefly clay slate, which, commencing on the coast, about 30 miles north of Oporto, runs down and crosses the Douro, about 16 miles above that town. To the south of Vallongo, the slates overlie a deposit of anthracite in several beds, some of them from 4 to 6 feet thick. This coal is now worked in several pits, and principally sent to Oporto. Along with it are beds of red sandstone and black carbonaceous shale, with vegetable impressions too indistinct to be determined, but strongly resembling ferns of the coal measures. In the shale above this coal, Mr. Sharpe found many fossils, orthides, trilobites, and graptolites, most of them new species, but others well known in the lower Silurian rocks of northern Europe. It would thus appear that the coal deposits of Oporto are included in the Silurian formations, and are thus far below the usual level of the coal. Similar clay slates and sandstones have been described near Amarante, where they form the celebrated wine district of the Upper Douro. The boundary between the granite and the slates is also the exact limit to the cultivation of the finer qualities of port wine.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY	Cameron's Coalbrook Steam Coal—at Ridley's Hotel, at Six.
TUESDAY	Condor Mining Company—at the mine.
	Derwent Mining Company—offices, at Twelve.
WEDNESDAY	Royal Exchange Assurance Company—offices, at Twelve.
	Puget's Seed Agricultural Company—Hudson's Bay House, at Two.
	Prior's Patent Candle Company—offices, at Twelve.
THURSDAY	Barnes Iron Company—offices, at Two.
FRIDAY	Mendip Hills Mining Company—offices, at Twelve.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

The eighth annual meeting of this company was held at their offices, Leadenhall-street, on Wednesday last, the 18th instant.

Alderman Sir JOHN PRIE, Bart., in the chair.

The attendance of proprietors was very numerous. The SECRETARY (C. W. Howell, Esq.) read the notice convening the meeting, to receive a report from the court of directors for the year ending 30th of Sept. last, and to declare a dividend.—The minutes of the last, or fifteenth, half-yearly meeting, held on the 30th May, were read, and confirmed.

The SECRETARY then read the eighth annual and sixteenth half-yearly report, as follows:—

In laying before you your eighth annual report of the state and condition of the company, the directors deem it proper briefly to advert to the eventful period which has elapsed since their last annual statement to the 30th September, 1847. Since that date, as you are all aware, a state of things has occurred, disastrous in an extraordinary degree, to nearly every branch of commercial interest and enterprise. Having before you that fact, the directors cannot but feel that it falls on this occasion, to present you with a statement showing some diminution in your receipts and profits, such a circumstance would not have afforded any reasonable ground either for disappointment or for diminished confidence in the permanent prosperity of the company.

The directors have, however, the more gratifying duty to announce to you, that for the year commencing 1st of October, 1847, and ending the 30th September, 1848, the position of the company has improved, as compared with the corresponding period of the previous financial year, both as regards its income and its profits. An account and statement of the current receipts, disbursements, and appropriations to reserve funds, for the year ending 30th September last, also an account of the debts, assets, and effects of the company, are placed on the table for the inspection of the proprietors. From these documents the following results appear—namely: That after defraying the ordinary disbursements of the year, including the current repairs and insurance of the company's fleet, and carrying to the insurance fund 19,000*l.*, as the balance of premium on the estimated amount of floating property not insured by underwriters, there remains to the credit of profit and loss on the year's operations £140,581 4 2

From which deduct the following items—viz:—

Depreciation of 5 per cent. on the present estimated value of the company's ships for annual depreciation £40,000 0 0
Amount paid the managing directors on account of 5 per cent. commission, or premium on net profits, for the 15 months ending 30th September 2,700 0 0
Reserve to meet balance of expenses in placing four steamships on the India and China stations 7,000 0 0
Also the dividend paid for six months ending 31st March, 1848, which amounted to 39,003 16 0—£88,703 16 0

There remains, available for the dividend now about to be declared, and to meet outstanding claims £51,877 8 2

REPAIRS, DEPRECIATION, AND INSURANCE FUNDS.—Although the principle upon which these funds are set out of the earnings of the vessels, and the objects of their application, were stated in the report made to the annual meeting of the 5th December, 1845, yet, as the directors are aware that considerable misrepresentation has been propagated, and that some misunderstanding may exist in respect to them, they deem it proper now again to explain these principles and objects.

1. THE REPAIRING FUND.—It has been ascertained by the practical experience of many years, that the cost of the ordinary repairs necessary to keep an ocean-going steam-vessel in efficient working condition in hull and machinery will amount to about 10 per cent. per annum on her original cost, less the amounts to her credit in the depreciation fund. Acting on that experience, the directors have appropriated, out of the earnings, such a per centage, and therefrom formed a fund for this purpose. It will, however, be obvious, that the repairs of a vessel for the earlier period of her duration will be less than during the latter, and hence (most of the company's ships being comparatively new) arises the balance of the repairing fund now in hand, amounting, after defraying the ordinary working repairs of the company's ships and machinery, to 60,000*l.* This sum, therefore, cannot be considered as a permanent reserve, but as applicable to future repairs, when (by the vessels becoming older) the repairs may exceed 10 per cent.; and, although from the experience which they have had of iron ships, the directors entertain a hope that their cost for repairs will fall considerably short of that of wooden vessels, they do not feel justified, without longer expectation, to act on such an expectation.

2. THE DEPRECIATION FUND.—It is well-known that ships and machinery, although kept up in efficient repair, will, in time, gradually deteriorate in value. This gradual depreciation has been estimated at about 5 per cent. per annum on the value of the ships and machinery. It became, therefore, necessary, in order to keep up the property of the company at its original value, to set aside, out of earnings, a fund to meet this depreciation. This has been done at the rate above-mentioned, and the amount, 173,902*l.* 6*s.* 8*d.*, so reserved out of earnings has been applied from time to time to the construction of new vessels and machinery.

3. THE INSURANCE FUND.—The circular on the subject of insurance, recently issued to the proprietors, will have shown to them that this fund, amounting (after deducting all losses uncovered by insurance) to 180,000*l.*, has been accumulated by passing to it out of earnings from time to time, for a series of years past, amounts equal to about 5 per cent. per annum on that portion of the company's floating property which remained uninsured by underwriters, and which uninsured portion the directors have gradually increased during the last three years. It is now to be considered as a fund, to meet the usual casualties to the vessels, or other contingencies. With such a fund, the directors, after having given to the subject their careful attention, consider that the time has arrived when the proprietors may prudently, and with advantage to themselves, discontinue, on the termination of the existing policies, the further payment of premiums to underwriters, and on which regard the directors, as announced, intend on the present occasion to take the opinion of the proprietors. Recurring to those three reserves, made out of earnings in the mode just explained, the directors deem it right to record their conviction, that without making such provision previously to the division of any profits, no steam navigation enterprise can be said to be placed in a sound financial position, and that to do otherwise would be tantamount to paying a dividend out of capital.

NEW SHARES.—The proprietors are aware that more than a year and a half since, the directors obtained sanction of the Court of Directors of the company (as required by the Charter of Incorporation) to raise 500,000*l.* additional capital, at such times as it

might be required, for the purpose of extending the present, or undertaking new lines. Looking to the depressed state of monetary affairs which has since existed, the directors have hitherto deemed it inexpedient to increase the capital amount by the issue of new shares; they, however, consider that the time is not distant when they may raise such additional capital as may be required for the extension of the present, or the undertaking of new lines. INSURANCE ON THE COMPANY'S AFFAIRS BY GOVERNMENT.—In their last half-yearly report the directors stated that they had availed themselves of the occasion of the conveyance of the India and China mails between Southampton and Alexandria (for which this company's contract expires, by notice, at the conclusion of the present year) being opened to public tender, to invite the Lords Commissioners of the Admiralty to make an inspection of the company's books, accounts, vouchers, &c., by competent persons, in order to satisfy themselves as to the correctness, or otherwise, of certain exaggerated statements which the directors were aware had been, both publicly and privately, circulated, of supposed excessive profits derived by the company from its connection with the contract mail service. Their lordships availed themselves of the invitation of the directors, and appointed two commissioners for the purpose. These gentlemen had every information they required unreservedly given to them; and, after a minute investigation, they made a report to the Lords of the Admiralty. This report their lordships did not consider themselves at liberty to make any public use of; but the directors are sufficiently cognizant of its tenor to state, that a contradiction to the misrepresentations alluded to, nothing could be more decisive. With regard to the contract referred to, the directors have made a proposal to the Government for continuing the same, upon such terms as they considered to be equitable under the present circumstances of the company. They have reason to believe that no final decision has yet been come to on the subject by the Government.

TRANSIT THROUGH EGYPT.—The directors are enabled to report that the transit of passengers, parcels, goods, and stores, across Egypt, has for some time past been conducted by the Egyptian Transit Administration, in a satisfactory manner, and that by advice recently received from the company's resident agent there, they are informed that his Highness Abbas Pasha, who has succeeded to the vice-royalty of Egypt on the death of Ibrahim Pasha, has intimated an intention of making important improvements in the transit arrangements.

SUSPENSION OF THE STEAM COMMUNICATION WITH ITALY.—In their last report the directors stated that they had established a line of steam communication with Italy. In consequence of the continued political disturbances in that country, and the recent imposition of a quarantine at the Italian ports, on all vessels arriving there from England, the directors have felt themselves compelled to discontinue the communication until circumstances more favourable to the development of commercial intercourse with Italy may warrant their resuming it.

STEAM COMMUNICATION WITH AUSTRALIA.—The proprietors are, doubtless, aware that the Lords Commissioners of the Admiralty recently advertised for tenders for the establishment of a monthly steam communication between Singapore and Sydney, either by full-power paddle-wheel steamers, or by sailing schooners with auxiliary screw propellers. For the latter mode of performing the service, the directors have declined to make any tender, being convinced that such means of executing it must prove insufficient in point of punctuality of arrival, and consequently, of little or no benefit to the important colonies of Australia. Aware, however, of the strong and growing desire of all parties connected with Australia to obtain an efficient steam communication with those colonies, in connection with this company's lines with India and China, the directors felt it to be incumbent on them to facilitate that object to the utmost of their power. They have, therefore, offered, on behalf of the company, to undertake the proposed service by means of efficient full-power paddle-wheel steamers, on lower terms than it is possible for any other party to execute it for, with similar vessels, and to derive a fair remuneration from it—the directors looking chiefly to the additional traffic it may bring into their already established lines, rather than to receipts from the proposed line *per se*. They have furnished to the Government estimates of expenses and returns of traffic on which they have based their offer; and, as they have not felt warranted in estimating the latter at more than a comparatively moderate sum, they have made it a part of their proposal, that should the sum actually realised be in excess of their estimate, the public shall have the benefit of such excess, by deducting it from the cost of the mail service. In making such a tender, the directors cannot but feel that to promote a public object, in which the interests of an important section of the community are involved, they have gone to the extreme of what their duty to the proprietors permits. And, whether Her Majesty's Government may or may not adopt their proposal, its reasonableness cannot fail to be appreciated by all parties connected with Australia, while its adoption or rejection will be of but trifling pecuniary importance to this company.

DISCONTINUANCE OF THE CONVEYANCE OF THE INDIA MAIL, OF THE 30th OF THE MONTH, FROM SOUTHAMPTON.—In their last half-yearly report the directors alluded to the termination of the temporary arrangement with the Government, under which this company conveyed the above-mentioned branch of the India mails between Southampton and Alexandria. This measure having created considerable dissatisfaction among that portion of the community interested in the postal and other communications with India, and the directors having observed that blame has been imputed to this company for the abandonment of that arrangement, they felt it to be necessary now to state, in the most explicit and unqualified terms, that they are in no way responsible for that measure. It is true, that the execution of that branch of service, by impeding, to a certain degree, the company's commercial traffic, and impeding upon it the charge of providing and maintaining the above-mentioned branch of the India mails between Malta and Alexandria, occasioned to the company a loss of traffic, and an amount of increased expense, somewhat exceeding the amount of remuneration received for the conveyance of the mails, and that, therefore, the discontinuance of this service was, in a pecuniary point of view, an advantage, rather than otherwise, to the company. But, notwithstanding this circumstance, the directors never had any intention of abandoning the arrangement; they considered it as a necessary and important part of a chain of communication in which the company was extensively employed; and that they were, therefore, bound to maintain it to the utmost of their power, in the most judicious manner. The Government, however, availing itself of the right which it possessed under the terms of the agreement, gave notice to the directors of its intention to discontinue the service, and there was no option but to submit to that decision.

LOSS OF THE "ARIEL."—The directors regret to report one casualty to the company's fleet during the last 12 months, in the loss of the steam-ship *Ariel*, on the coast of Italy. This ship, unfortunately, got on shore on a shoal near Leghorn, and although (being constructed of iron) she sustained, in that situation, the force of the weather for several weeks with little or no damage, and strong hopes were entertained of getting her off, for which energetic and judicious measures were adopted—yet a gale of unusual suddenness and violence springing up, frustrated these expectations, and totally destroyed her. Her original cost, about two years since, was 39,000*l.*; she was insured to the extent of 15,000*l.*, which has been received from the underwriters. The balance of her cost has been written off from the repair, the depreciation, and the insurance funds.

VACANCY IN THE COMMITTEE OF MANAGEMENT.—It is with feelings of deep sorrow that the directors have to announce the death of Mr. James Clapton, one of the managing directors, of whose talents and activity in the discharge of the duties of his office they cannot speak too highly. This sudden and melancholy event has caused a vacancy in the management direction. By the terms of the company's Deed of Settlement, the directors are empowered to appoint to this important post one of their own body. Looking, however, to the interests of the company, they have determined to waive this privilege, and propose to appoint to it Mr. James Allan, formerly the company's secretary, and for the last two years attached to the managing directors' establishment. Mr. Allan has been, for the greater portion of his life, in the service of the company, and has acquired a most extensive knowledge of every detail of its management; he has long completed a mission of inspection to the company's stations in India and Ceylon, the duties of which he has executed with much ability and advantage to the company, has thereby made an important addition to his qualifications for taking a part in the executive management of the company's affairs. By the terms of the Deed of Settlement, Mr. Allan's appointment as a managing director cannot be made until he shall have been first elected to a seat in the direction, which cannot take place sooner than about six months hence. In the meantime, he will act as senior assistant manager, and will be qualified to take the place of Mr. Clapton, in the management of the company's affairs. Mr. Allan has been, for the greater portion of his life, in the service of the company, and has acquired a most extensive knowledge of every detail of its management; he has long completed a mission of inspection to the company's stations in India and Ceylon, the duties of which he has executed with much ability and advantage to the company, has thereby made an important addition to his qualifications for taking a part in the executive management of the company's affairs. By the terms of the Deed of Settlement, Mr. Allan's appointment as a managing director cannot be made until he shall have been first elected to a seat in the direction, which cannot take place sooner than about six months hence. In the meantime, he will act as senior assistant manager, and will be qualified to take the place of Mr. Clapton, in the management of the company's affairs.

APPOINTMENT OF NEW DIRECTORS.—In their last half-yearly report the directors announced to the proprietors that they had appointed to the vacancy in the direction, occasioned by the resignation of Sir John Campbell, Joshua Carter, Esq., a qualified proprietor, who had been long resident in India, and held several important offices in the East India Company's civil service. The directors also no doubt were aware that Mr. Patrick Maxwell Stewart, M.P., late chairman of the company, had not been filled up—the directors considering that it would be better for the interest of the company to let that seat remain vacant until some gentleman possessing the qualifications requisite for filling the important post of chairman to the company might offer himself. Recently, such a candidate did come forward, in the person of James Matheson, Esq., M.P., who has been qualified proprietor of the company ever since its formation. Mr. Matheson's former extensive connection with the company, and his high standing in his country, rendered him a most eligible person to fill the honourable post of chairman to this company. They therefore did not hesitate to respond to the application of Mr. Matheson, by appointing him, under the powers vested in them by the deed of settlement, to the vacant seat in the direction; and they have since elected him their chairman. As both these appointments are subject to the concurrence of the proprietors at the present annual meeting, the directors now cordially recommend to you the confirmation of the election of these two gentlemen.

INTENDED SALE OF THE STEAM-SHIPS "BOMBAY" AND "VICTORIA."—In their report, dated 28th May, last year, the directors stated that they had contracted for the construction of three additional vessels—namely, two vessels of 1205 tons, and 450 horse-power each, and one vessel of 900 tons, and 350 horse-power. They adopted this measure under what they then considered to be a well-founded expectation, that the company's operations, both in the Indian Seas and the Mediterranean, would require to be considerably extended. Circumstances, however, have occurred since then to postpone for a time the contemplated extension, and the company's ships already completed, and in operation, are sufficient to meet all the services in which the company is at present, or is likely to be, at least for the next 12 months, engaged. The agent of a foreign Government having proposed to purchase one of the vessels of 1205 tons, named the *Bombay*, and the vessel of 900 tons, named the *Victoria*, upon advantageous terms to the company, the directors considered it advisable to enter into an agreement for the sale of those vessels. A deposit of 20,000*l.* has been lodged in the hands of the company as security for the completion of the purchase, and the remainder of the purchase-money is payable on the ships being completed by the builders and engineers, which the directors expect will be effected within about two months hence. In the event of this sale being completed, the directors intend to contract for the construction two first-class vessels, with the largest proportionate power, for ensuring speed and efficiency.

PREPARATION OF ACCOUNTS.—The directors intimated, in their last half-yearly report, that it might be advisable to decide, at the present meeting, the question of the expediency, or otherwise, of printing and circulating the annual accounts of the company. In conformity with that intimation, they now submit the question to the decision of the proprietors, and are ready to act, in reference thereto, agreeably to their wishes. In conclusion, the directors have the satisfaction to state that the financial position of the company is such as to furnish ample means for meeting its existing liabilities; that its fleet is in efficient working condition, and that the number of ships now placed on the various stations, particularly in India and China, is fully sufficient to guarantee the security of the important postal communications with which the company is charged; that the directors continue to receive abundant testimony of approval of their arrangements for the public accommodation, and that they have no reason to doubt the permanency of the connexion of the company with that branch of the public service (the conveyance of the mails) for which it was chiefly established, and in the undertaking of which it has realised to the public important national advantages. The directors now recommend that a dividend of 4 per cent. should be paid on the half-year ending 30th Sept. last, be declared, and be payable on and after the 33rd inst.

Mr. HADDOCK considered the present report the most important that had ever been presented at an annual meeting, and he most confidently asked their assent to it, by moving its adoption. During the last year—a year of unexpected political confusion, as well as commercial distress—their pecuniary interests had not only not suffered, but had been considerably ameliorated, and placed in a better position than they had ever been before. For this result he considered it their bounden duty to thank most cordially the court of directors, and in particular the managing directors. (Hear, hear.) He fully concurred in the proposal that they should become their own insurers, instead of going to Lloyd's, or elsewhere. The estimated value of their floating capital was about 900,000*l.*, and if they laid aside 5 per cent. of that they would have about 45,000*l.* annually, which would amply suffice to meet their probable casualties. With regard to the much-mooted question of publishing the accounts, he was still of opinion that it would be unwise and impolitic in the company to publish in detail, and circulate a statement of, their profit and loss. They were a trading company—a large portion of their income was derived from the carriage of goods, and if they published the accounts thereof they would necessarily exhibit the sources from which their income was derived, and thereby create competition. Let them keep their accounts to themselves, and let shareholders who wished to examine them call and do so at the office. With regard to the sale of the two ships referred to in the report, and from which he understood there would be derived a profit of 15,000*l.*, he suggested that that should be paid in the form of a bonus to the proprietors.

Sir J. CAMPBELL, in seconding the motion, likewise congratulated the company upon its present prosperous state, and upon the remarkable fact, that its operations had not been in any degree affected by those great commercial and social changes which had taken place from east to west, but that, on the contrary, owing, he believed, to good management, it had gone on progressing in prosperity from its origin. Nothing could be more satisfactory in a general point of view than the present report. But upon the subject of insurance, he could not quite concur with the hon. gentleman who moved the adoption of the report. Of the fund of 150,000*l.*, he would invest at least 50,000*l.* in good available securities, and lend the other 100,000*l.*, with any temporary surplus, to the company, at 5 per cent. In the event of any loss, the loan to be repaid; and unless it should become exhausted, the securities alluded to not to be touched. Any surplus that was over the 150,000*l.*, he would divide amongst the shareholders as often as it should become equal to 1*l.* per share; the accumulation of interest on the 50,000*l.* to be re-invested or added to the bonus, at the discretion of the directors.

After some discussion the report was adopted; as were also resolutions confirmatory of the report, as regarded the discontinuance of insurance on the company's vessels, and the election of Joshua Carter, Esq., and J. Matheson, Esq., M.P., to a seat in the direction. Upon this last resolution an amendment was moved by Mr. Morris, to the effect that, instead of confirming Mr. Carter's appointment, a ballot be taken, after due notice, in the usual manner. It was stated by the mover, and also by the seconder of the motion, Mr. Warren, that their object was merely to establish as a principle the power of the shareholders to elect their own directors; but the motion was lost on a show of hands, and the original proposition carried.

Resolutions were also passed, declaring—"That the audited accounts of the company be laid on the board-room table, for the inspection of proprietors, at least seven days previous to each annual meeting.—That the thanks of this meeting be given to Messrs. Wilcox and Anderson, for having voluntarily relinquished, for the benefit of the proprietors, the commission to which they are legally entitled by the deed of settlement, as managing directors, consequent upon the lamented death of the late F. Carleton, Esq."

Mr. ANDERSON acknowledged the compliment, and thanks having been also voted to the chairman, the meeting separated.

GENERAL ANNUITY ENDOWMENT ASSOCIATION.—The annual meeting of shareholders was held at the London Tavern, on Thursday last.—G. P. PARKIN, Esq., in the chair.—The SECRETARY read the report, which showed that 47 new members, holding 120 annuities, had been raised during the year. The amount of capital on the 30th Sept., 1848, was 226,627*l.* 7*s.* 11*d.*, being an increase during the year of 10,987*l.* 2*s.* 1*d.*, exclusive of the sum of 9929*l.*, which has been paid to several annuitants. The balance-sheet showed that the sum of 82,409*l.* 16*s.* 1*d.* had been received during the past year's entrance fees, premiums, &c. The balance at bankers was 804*l.*—After some discussion, in respect to the propriety of forwarding the accounts of the society, in which Mr. Hichens, Mr. Walsh, Mr. Hodgkins, and others, took part, the report was adopted; and a resolution was passed, for allowing a gratuity of 100*l.* to the auditors, in addition to the sum allowed to them by the rules.—After a vote of thanks, the meeting separated.

LICENSED VICTUALLERS' INSURANCE COMPANY.—At a special court of this company, held on Tuesday last, C. S. Butler, Esq., of Clapton, was unanimously chosen a director, in the room of Charles Bleaden, Esq., resigned. A highly complimentary vote of thanks was passed to Alderman Musgrove, the newly-appointed chairman, who, in returning thanks, stated that the business of the company had greatly increased within the last few months.

MUTUAL LIFE ASSURANCE SOCIETY.—The election for a director of this society took place on Tuesday last, at the King's Arms Tavern, in the Poultry. At the close of the ballot the numbers were—for Mr. Mollett, 664; for Mr. Hayne, 512; majority for Mr. Mollett, 152.

ORIENTAL BANK.—The annual meeting of shareholders was held at the offices, Walbrook, on Thursday last.—H. GORDON, Esq., in the chair.—The report was satisfactory, and a dividend of 3*l.* per cent. for the half-year was declared, which, with the previous one of 4*l.* per cent. at the former meeting, made up a dividend of 8 per cent. for the year. The losses incurred by the bank would not exceed 52,000*l.*; but when the amount of deficit was taken from the contingent and reserve funds, it would still leave a balance of reserve of 112,000*l.* The conversion of Indian shares, at the rate of 2*s.* per rupee, was now legalised. The total profit of the year was 92,916*l.* 13*s.* 9*d.* After some discussion, the report was adopted, and the meeting adjourned.

THE CATASTROPHE ON BOARD THE "LONDONDERRY" STEAMER.—In reference to the above melancholy accident, Dr. Murray, of Hull, has addressed the following letter to the editor of the *Times*:—"It is heartrending to peruse a detail so frightful as that of the recent catastrophe on board the *Londonderry* steamer, attended by a sacrifice of 72 lives, especially when means the most simple could have averted it; and as a storm may overtake a vessel at any moment, the provision should be made forthwith imperative. Last year an entire cargo of cattle was destroyed, under circumstances precisely similar. Immediately after I recommended (in the *Mining Journal*) the simple application of a tube, or pipe, rising several feet above the deck, and curved downwards, to admit air, and yet exclude rain, or the sea water. This tube descends to the floor of the hold, or stowage; and a similar pipe from the roof of the hold, or stowage, enters the chimney of the cook's cabin, or that of the engine furnace. In case of the absence of fire to promote ventilation, a small forcing-pump must supply the place of the former pipe. During a storm the hatches, &c., must be battened down; but this simple provision would be an adequate compensation."

SOFT METAL FOR HOT BEARINGS IN STEAMERS.—During the trial of the *Ajax*, steam line-of-battle ship, at Portsmouth, on Tuesday, she had two hot bearings—the Prince Consort inquired why the "soft metal" was not used as a preventive. This is an invention patented by, we believe, a Mr. Woods, for the remedy of hot bearings, and has been found generally successful, and it would appear the Prince Consort has made himself acquainted with its efficacy, in the *Fairy*, royal steamer, probably, but the *Ajax* was not supplied with it.

EXPERIMENTS AT THE ROYAL ARSENAL, WOOLWICH.—A series of experiments have been carried on for some time past at the Butts, in the Royal Arsenal, to ascertain the practicability of introducing Captain Chads' suggestion of employing two shots at one firing in actual service, and how far danger was to be apprehended to those employed in working the guns when double-shotted. Capt. Chads made several experiments on his principle on board the *Excellent*, gunnery ship, at Portsmouth, which were most satisfactory to him, and on submitting the plan to the authorities, the matter was referred to the members of the select committee at Woolwich, who gave instructions that an 8-in. gun of 65 cwt., 9 ft. long, should be selected from a quantity recently received from the Low Moor Company, in Yorkshire. The gun selected had been previously tested in the usual way, by firing two rounds with one solid shot and 20 lbs. of powder each time, and the experiments were commenced by firing two 56-pound hollow shot, with 5 lbs. of powder each charge, and continued with the double shot and the same quantity of powder up to the 60th round. From the 61st to the 70th round, 6 lbs. of powder were used in each charge; from the 71st to the 80th round, 7 lbs.; from the 81st to the 90th round, 8 lbs.; from the 91st to the 100th round, 9 lbs.; from the 101st to the 110th round, 10 lbs.; from the 111th to the 120th round, 11 lbs.; from the 121st to the 130th round, 12 lbs.; from the 131st to the 140th round, 13 lbs.; from the 141st to the 150th round, 14 lbs.; from the 151st to the 160th round, 15 lbs.; from the 161st to the 170th round, 16 lbs.; from the 171st to the 180th round, 17 lbs.; from the 181st to the 190th round, 18 lbs.; from the 191st to the 200th round, 19 lbs.; from the 201st to the 210th round, 20 lbs.; and from the 211th to the 220th round, 21 lbs. The last 10 rounds were with the heavy charge of 21 lbs. of powder, and the gun double-shotted each time, were fired on Wednesday, and on examining the gun after the experiment, it did not appear to have sustained any perceptible injury, notwithstanding the severe test it had undergone. The gun is only of cast metal, but this trial has shown the superiority of the castings of the Low Moor Company, and the small risk has shown the employment in firing the gun under a test which it was never contemplated they would be subjected to. It is intended to carry on the experiment until the gun is burst, and to add an additional pound weight of powder to each charge after every 10 rounds. The firing has already disabled one carriage, and a carpenter attends the experiments in case of injury to the platform by the recoil. The ultimate result is now looked forward to with great anxiety, the test the gun has already experienced having far exceeded the anticipations of the officers who have witnessed the experiments.

DRUGGICAL AFFECTIONS CURED BY HOLLOWAY'S PILLS.—The causes of this dreadful disease are various: it is often engendered by the morbid state of the system, whereby the free circulation of the blood is impeded, or it may originate from some preceding complaint. The first thing to be done in order to effect a cure is to remove any obstructions, by purifying the blood, and causing the discharge of the superabundant fluids from the body; for this purpose take Holloway's pills, as they possess such cleansing properties that the druggist patient is gradually restored to health, and the whole frame is permanently renovated. These pills may be safely taken by male or female, at all periods of life. Sold by all druggists, and at Professor Holloway's establishment, 214, Strand, London.

FOREIGN MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I have been watching, with great pleasure, the progressive improvements in the prospects of some of the foreign mines, and especially the Brazilian. I believe, Sir, if our English companies were to appoint men to carry on their mines who would always represent the real state of them, whether favourable or unfavourable, capitalists would be more willing to advance money to carry on such undertakings. It is very easy to commence a mine; but the question is, when to stop a bad or an exhausted one. If some mine agents are allowed to begin a mine, they will never stop, whilst they see anything they may call "kindly" or "promising," whatever might be the losses incurred. This has been the great cause of the unfavourable results of many of the foreign gold and silver speculations.

It is my belief, that were such mines carried on by prudent men, possessing full knowledge of every description of metalliferous rocks, and the true character of every deposit, and who would suspend operations in all mines which cannot pay cost, and only working the profitable ones, much may be done with the foreign mines. Suppose we were to carry on all the copper mines in Cornwall, the same as some of the foreign mines have been carried on, there would be no such thing as a mine "knocked." "Promising" reports, and "a good mine," would be the order of the day, whilst money could be obtained for driving and sinking. The unfortunate proprietors obtaining for their heavy losses only a peep at some plans and sections, and estimates never realised, and consequently make them look with suspicion and disgust at all mining speculations.

I am happy to see a change for the better. Exhausted mines are now being abandoned, and set on contract to native washers (who can perform such operations cheaper than foreigners), and new mines taken up, dividends declared, and gold mines are at length carried on on the same principle as we do here—viz.: for the sake of making profits, and not for the sake of mere working them at the expense of English capitalists.—J. R.: *Redruth, Dec. 12.*

EAST WHEEL FRIENDSHIP MINING COMPANY.

SIR,—Will you allow me to inquire, whether this company is in existence?—I have applied to the purser, from whom no answer has been received, and to the sharebroker, from whom my shares were purchased, without obtaining any information. As the mine is withdrawn from the share list, I should be glad to be informed if the adventurers may expect any communication relative to the expenditure of the amount of shares taken, or as to the determination of the managing parties.—AN ADVENTURER: *Salisbury, Dec. 11.*

GADAIK MINING COMPANY.

SIR,—Your correspondent, Mr. Taunton, has requested me, in your Journal of the 2d inst., to state—1. How I became solicitor to the Gadaiik Company—Was it a case of jobbing, or was it not?—Had not some highly respectable firm entered upon its duties, and discharged them with punctuality and good faith?—Mr. Taunton knows, without inquiry, that five gentlemen, members of the British Mining Offices, without my knowledge, nominated me to the appointment, subject to my acceptance; and then waited upon me, stating the fact, and requesting my acceptance of such appointment. This is the only jobbing I am aware of. Until Mr. Taunton's letter appeared, I was not aware of having superseded any gentleman. The preliminaries of a mining company being a *lease*, such lease was referred to, approved of, and attested by me, and the costs of such lease, amounting to 64l. 13s. 7d., were paid through my hands, to Mr. Taunton's positive knowledge.

Again, that gentleman protests against the expression of his having "eaten the bread of the British Mining Offices," and, true to the card, declares he had not eaten "a crumb" of theirs. Now, Sir, without any disposition to be facetious, you may recollect the old fabled cock starling while it stood over a heap of grain—of gold! Only wheat grains would assimilate with the cock's digestive organs. Possibly the conversion of gold grain into wheat bread, or crumbs, would not prove so great a difficulty to Mr. Taunton as to the ancient bird.

The following Dr. and Cr. account, submitted to me by the British Mining Offices, applies the moral. After payment of Mr. Taunton's salary, &c., his cash receipt leaves him debtor to his employers 47l. 10s. 11d.—so that, if he has not had the bread, he has, at least, possessed the golden grain.

Dr.	Mr. T. H. Taunton, in account with the British Mining Offices.	Cr.	
Balance to end of Dec., 1847..	£47 5 3	Balance of salary due to T. H. T. £54 12 0	
Cash—Mr. Brooks	50 0 0	Com. paid on Trotman's shares 1 5 0	
" Mr. Bursall	30 0 0	Paid Capt. Ople	126 0 0
" T. H. Taunton	15 0 0		
" Trotman	23 0 0		
" Cundy	8 0 0		
" Bank cheque	£ 2 8		
" Furniture	46 0 0	Balance	41 10 11
	£223 7 11		£223 7 11

Balance due from Mr. T. £11 10 11d

Mr. Taunton knows, too, that month after month the monthly cost has been remitted to the Gadaiik Mine out of the personal funds of Mr. James Truscott, of whom (in conjunction with others) he states, no one ever expended a single sixpence out of his pocket. The members of the British Mining Offices were certainly inconvenienced by Mr. Taunton's long withholding their books and accounts (the correspondence book he still retains), until under pressure of public notice.

Again, Mr. Taunton inquires, whether he did not, on the 13th Sept. last, pay into my hands 160l., to take up the Lydford Castle lease; and whether I did not then promise to do so, and to be prepared with the assignments within a fortnight from that time?—and further, whether I have not applied the money so received for other purposes, which, at the time it was paid into my hands, was never contemplated by him? Now, really, Mr. Editor, I think it too bad of your correspondent to call upon me to account for his contemplations; but I am prepared to abide by the contemplation of any person other than the inquirer, on stating facts provable by documentary evidence—in whose hands should you suppose?—why, Mr. Taunton's! That gentleman ought by agreement, under his own hand, to have paid 160l., on account of 400l., on the 13th March, some six months previous to 13th Sept. His apologetic explanations were accepted for more than five months; and then Mr. Taunton being made aware that the contract would be rescinded, and that a party was prepared to take his position, and pay the 400l. instant, he found 160l., and promised the balance in a fortnight. For reasons (to which no fuller allusions shall be made, to spare that gentleman) I declined taking this 160l., except as on account, and he holds the receipt, *totidem verbis*.

Thrice, and again, has Mr. Taunton been since personally, by letter and notice, urged to furnish the difference, in order to complete the transfers, *without reference to the debt of 41l. 10s. 11d. claimed by the British Mining Offices*, and has not yet done so; his correspondence shows why. But Mr. Taunton has seen in my possession two out of three leases (Newton's and Phillip's), and also the receipt for the cash paid for the latter. He also is aware, that it will cost from 10l. to 15l., to take up the leases beyond what he assured the British Mining Offices (possibly in error) to be the necessary amount. One word more. If Mr. Taunton has not acted with ingratitude to his employers, he has no occasion to regret the allotment to me of what he *alleged* to be 50 free shares, or my connection with the Gadaiik Company. The British Mining Offices entrusted that gentleman with some 70l., to deposit the same in a City bank the same day. He lost it in an omnibus on the road. The Gadaiik finance committee, on statement of this misfortune, relieved Mr. Taunton from his dilemma by contributing towards this loss. I, for one, advanced my 20l., and was as free to share Mr. Taunton's misfortune as to be "honoured" with free shares. But Taunton has invited an explanation, and I cannot, in justice to my abused client, part with that gentleman without remark. His voluntary friendship for Mr. Mackillop's interests is inconsistent with his not having declared that gentleman acquainted with his secret note to the lord's agent, until after the lord had decided to forfeit the lease at Mr. Taunton's invitation. But, so far as one can enter into Mr. Taunton's "contemplations," he might have considered, that enjoying influential connections in Liverpool, willing to embark in Gadaiik, some appointment as purser, or otherwise, would form no mean addition to his position in other mines in which he is, and is likely to be, similarly interested, and which I need hardly add, he could not, under the circumstances, expect from the British Mining Offices, or the Gadaiik leases.

Queen-street, Cheapside, Dec. 5.

EDWARD MOSS.

CALSTOCK UNITED TIN.—The 42 fm. level is producing good tin stuff at 20s. per fm., and 10s. The 42 west is poor at present. The pitch in the back of the 42, and that in the bottom of the 28, have been set at 13s. 4d. in the 17. More men might be set on if the stamps would do more work. We sold 69l. worth of tin in November, and hope to sell 100l. worth in January.

WHEAL FRANCO.—The water is much quicker than it has been in the 62, which retards the driving very materially. The men in the 47 fm. level are very distinctly heard in the 62 fathom level.

PLYMOUTH WHEAL YEOLAND EAST.—The end is still in the run spoken of in our last. **PLYMOUTH WHEAL YEOLAND.**—The new south lode still holds good. The main or original south lode is not cut, but the ground is much improved for driving.

WHEAL ASH.—No part of the lode has been taken down since our last.

CROWNDALE.—There is little alteration here: the Rix Hill lode looks well.

WHEAL ANDERTON.—The western part of the lode looks very well.

EAST JOSIAH.—We can say little of this for the present: for

NORTH WHEAL FRIENDSHIP we have only to say ditto.

CARADON WHEAL HOOPER is 58 fms. deep, and adjoins South Caradon to the east. The last 5 fms. of the shaft is in granite, and as the Caradon mines have been productive in granite, it is expected *Wheal Hooper* will be productive in a like stratum.

CARADON COFFER.—This mine, which is 30 fms. deep, is very large and promising.

WHEAL CALSTOCK.—The pitch in the deep adit is looking well; the lode is about 1 ft. wide, almost solid ore. No lode taken down in the western end in this level.

ACCIDENTS.

Newarthill Colliery, near Glasgow.—W. Hughes was killed, and J. Hill seriously injured, by a large stone falling on them while working in the No. 3 pit, Newarthill Colliery. It was three hours after the accident before the body of Hughes could be extricated, and when found, it presented a frightful appearance.

Rowley Bepis.—J. Haristown was dreadfully crushed about the back and loins by a fall of coal at Mr. Davis's Brick House Colliery, near Rowley.

Tipton.—S. Millward was sadly injured about his head and back, by a fall of coal, at the Open Works, near Tipton; and on the following day another collier, named Cambridge, sustained dreadful injuries by a similar occurrence, at the same works.

Extraordinary Escape.—As Capt. Kernick, of the Owlacone Mines, was descending one of the shafts, on Tuesday last, the rope to which the bucket was attached broke, and he fell a depth of 42 feet. Providentially he was not hurt, and shortly after walked to Ashburton, two miles.

Carn Brea.—A man, named Williams, was tampering a hole at Carn Brea, when it suddenly exploded; and, strange to say, he escaped without much further injury than the loss of his two thumbs.

Llanelli.—At the Llangennech Colliery, a poor boy, aged 14, was killed by one of the arms of the wheel coming in contact with his head.

Cyfrnau Iron Works, Bridgend.—T. Matthews, having finished his day's work, was in so great a hurry to ascend, that he would not wait, as is customary, for an empty carriage, but mounted on a tram laden with coal, with his mandrill under his arm. When the tram was on the ascent, he endeavoured to jump off into the first landing, or horse way, and failed in the attempt; when he fell headlong into the pit from which he had just ascended, a depth of about 70 yards. The unfortunate man's neck was dislocated, his arms and thighs broken—death, of course, was instantaneous.

Pontypridd Colliery.—W. Jenkins was killed by an explosion of fire-damp at the Gorse Colliery, worked by Messrs. Glassbrook and Richards. The explosion was caused by the deceased going with a naked candle into an abandoned heading, for the purpose of procuring a few lamps of coal to complete the filling of his wagon.

THE IRON TRADE.

TO THE EDITOR OF THE TIMES.

SIR,—Observing in your paper of the 7th inst. [see last week's *Mining Journal*], the letter of an eminent ironmaster, on the subject of the works at present carried on by the Bank of England as mortgagees, I think you will consider it but fair your readers should see both sides of the question. During the panic of last autumn, the Bank was induced to make a large advance on the security of these works. It was represented, that otherwise a great company, then carrying them on, must stop payment, and add grievously to the existing terror and distress; and, further, that a population of above 10,000 souls would thus be suddenly deprived of employment. On these considerations of public policy, the Bank was prevailed upon to part, reluctantly, with a large sum at a period of extreme pressure, and to expose itself to all manner of annoyances. Shortly afterwards the course of events compelled the Bank to enter into possession. On doing so, three courses offered—to sell the works at once, to hold them for sale after stopping them, or to keep them in action till a buyer could be found. To sell at once proved impossible, from proceedings in equity disputing the title to them. To stop them involved a large destruction of property, and what was of far greater consideration, it involved depriving of employment a township of people void of other resource. The third course was, therefore, adopted, of keeping them on a reduced scale in action until disposed of.

It is now stated, that the trade has been injured by this course, and more particularly by sales being made below the market price. An appeal to facts is the best answer. When bar iron fell below 6l. per ton in Wales, the make of these works for some months was held off the market entirely—5l. 15s., at which others were selling, being refused. So also, for the last two months, the example of others in reducing prices has been declined, and all orders at the rates others were selling at have been refused. The consequence has been a large accumulation of stock, to the detriment of the works, the result of studiously endeavouring to avoid injury to the trade.

The present condition of the railway interest, and of the continent, but too readily account for the depression in iron. No action on the part of any one maker could have produced or averted a decline so inevitable. These works are least likely to have added to it where the bulk of the produce has been stocked—a course not very likely to have been taken had such works been in other hands. The sheet iron referred to by Mr. Crawshaw is a simple matter, when explained. In order to reduce the make of bar iron, and still employ the people, some sheets were made. The quality being unknown, it would have been idle to attempt to introduce them at the price demanded for a first-rate and old established brand. The makers of sheet iron vary to the extent of 8l. to 4l. per ton in their respective prices, and many who are now selling at and about 7l. ton, will be very glad to know how to obtain 9l. for them.

As to the making of bank notes conjointly with iron, the Cwm Avon Works have scarcely been so fertile in this respect as Cyfartha, and the others named; nor does it seem clear that any ironmaster would find it a great boon were there added to his works the machinery for issuing a 5l. note, subject to the condition of placing five sovereigns in a vault in deposit against it.

Were the charges made really merited, there is a simple remedy. Mr. Crawshaw, or any other great ironmaster, has only to take the works into his own hands; he will probably find no exorbitant terms demanded, and be troubled with no complaints. The Bank became incumbered with these works, on motives of public policy at the time. It has reluctantly kept them in action, partly to prevent the ruin of a magnificent property, still more to save a large population from total want. Meantime it has been well known to Mr. Crawshaw, and to all parties in the trade, that the Bank have been all along most desirous to be relieved, by disposal of the works, from a task very distasteful, and very ungraciously regarded and misconstrued—a task, in estimating which, any one who visits the works will find ample evidence in the existing stock, that undue pressure on the markets cannot have been aimed at, whilst he will find, also, that other and higher duties to the people have not been altogether neglected.

I write simply in the capacity of one personally acquainted with facts at issue, and am, Sir, your obedient servant,

VERAX.

THE GAS TRADE.

At a meeting, held during the past week, the CHAIRMAN alluded to the opinion, that the price of coal prevented the London companies manufacturing on the same terms as other towns; and said the fact was not so: as a reference to the following list would show that in many places where gas was cheaper coal was dearer than in the metropolis:—

	Price per 1000 cubic ft.	Coals per ton.
London	6s 0d	16s 2d
Liverpool	4 6	14 0
Birmingham	3 9 to 6s 8d	19 3
Glasgow	5 0	23 9
Cheltenham	3 4 to 4 8	24 0
Croydon	4 6	24 0
Brighton	3 9 to 6 8 with 10 per cent. dis.	
Derby	4 6	
Nottingham	4 2	
Leeds	3 0 to 5 0	
Manchester	5 6	

In the latter town the supply of gas was in the hands of the corporation, who realised a profit of upwards of 15 per cent., which was applied to general purposes. But even if the London companies had to pay a higher price for coal, the market which they possessed for coke, tar, &c., &c., was a material item. The annual consumption of coals by the Imperial Gas Company was 51,000 tons. That quantity of coal produced 31,937 chaldrons of coke, which, at the rate of 14s. per chaldron, amounted to no less than 22,566l. 12s. The same quantity of coal produced 485,450,000 cubic feet of gas, which (after deducting one-fourth for loss), at 6s. per 1000 feet, gave 109,226l. 10s. The gas companies were certainly entitled to a fair and liberal return for their capital; but they ought, like other companies, to supply their customers at fair and equitable prices. It had been said that the companies were, in point of fact, almost losers at the present charge. Now, what was really the fact? From a return of the surplus profits made by the several London gas companies about two years ago, when it was supposed that the Government intended to levy a tax on gas, it was found—

The Imperial Gas Company had a surplus profit of	£58,009
The Chartered Gas Company	62,985
The London Gas Company	57,730
The City Gas Company	62,985

The surplus profit of the other companies varied from 36,000l. to 60,000l.

Capt. Laws, who lately resigned the management of the Great Northern, has been re-appointed managing director of the Lancashire and Yorkshire, which he left to join the Great Northern, at a salary of 1500l. per annum.

Mr. Peter Clarke, the general manager of the London, Brighton, and South Coast, has resigned, and will return to the management of Mr. Hudson's lines at Derby. It is not the intention of the Brighton Company to fill up the vacant appointment.

RAILWAY SIGNALS.—Within the last few days, the directors of the London and North Western Railway Company have, at the suggestion of Capt. Huish, the general manager of the line, adopted a species of signals, the effect of which will be to obviate collisions, by giving immediate and unmistakable notice of any stoppage on the line. This new signal, which, from its simplicity and certainty, is called "The self-acting time-signal," is the invention of Mr. J. Seetch, of the Strand, and consists of a barrel containing a composition with a spike at the end, for the purpose of sticking it into the ground or the carriages of a train, as occasion may require. A blow on the top will ignite it in an instant, producing a crimson light, which will last from 10 minutes to a quarter of an hour, and which burns with such intensity, that it may be seen, even by day, for upwards of 600 yards, and four or five times that distance by night. It is more particularly to be adopted for use in foggy weather, and these signals have been ordered to be carried by the guards of ballast and all other trains, with instructions to be used as occasion may require. It is considered the most perfect signal to indicate danger at night which has yet been invented.

OPENING OF THE SOUTH-DEVON EXTENSION LINE TO TORQUAY.—The Government Inspector issued his permissive order on Thursday for the opening of this important extension of the South-Devon line, having previously inspected the works, and pronounced them ready for traffic. The directors have consequently decided upon opening it on Monday next, when there is to be a general holiday at Torquay, and bread and meat are to be distributed among the poorer portions of the population. A considerable sum has been already subscribed for the festivities, and there are to be pleasure trips to Newton and back to Torquay. The new line commences at Newton, 214 miles from Paddington, and 30 miles up the South-Devon main line, with which it runs parallel for 1½ mile, when it diverges to the left, towards Torbay. It is 5½ miles in length, having its terminus at Tor, 1½ mile from the centre of Torquay, into which, at present, it has not been carried, in consequence of the difficulty experienced in the purchase of land. Being a single line, it is provided with the electric telegraph, to insure security of working. Passengers will now be able to run through the 220 miles to Torquay in the same carriage that takes them from Paddington.

On Friday morning there was a dislodgment of stones and earth at the Black Metal Point, on the line of the Whitehaven and Maryport Railway, but not to such an extent as to cause any serious obstruction to the usual traffic on the line. Information as to the casualty was telegraphed from the Whitehaven to the Maryport station early in the morning, and arrangements were made for the despatch, as usual, of the first up and down-trains, by having a range of carriages in readiness on each side of the fallen mass by which the railroad was covered. Owing to this precautionary measure, a delay of scarcely five minutes occurred in the passage along the line of the train leaving here at 7 a.m., and that usually arriving at Whitehaven at 8.35 a.m. The second down-train came through without any impediment, the cause of the former brief stoppage having by that time been removed. The slip alluded to was, of course, attributed to the heavy trains of the preceding week.—*Lancaster and Furness.* [The telegraph in use on the line above referred to is Brett and Little's, of 3, Farnival Inn.]

HIGH-PRESSURE STEAM GENERATOR.

INVENTED BY F. A. LEON, C.E.

In the beginning of this century the tubular boilers of Woolf and Rumford were used for generating steam. Soon after Trevithick's dued-boilers were introduced, it was found that metallic tubes surrounded with water were more effectual than tubes with water, and surrounded by the products of combustion. Since, the number of flues in a boiler increased successfully until they formed the multiflux locomotive boiler. Flued boilers ought to be used only where they cannot be avoided, as on railways, or for navigation. The space occupied by the flues reduces the sizes of the steam-chamber. The water at its maximum height covering these flues only a few inches, does not permit the use of the float-stone, the best water indicator on stationary boilers. The metallic flues are sometimes left dry, and burst. Boilers of that description are not easily cleaned, free access to the inside being almost impossible; the result of such neglect, if it causes no explosion, increases greatly the tear and wear, and the expense of extra fuel is very considerable.

The common cylindrical horizontal boiler, being the simplest, the safest, and the most easily cleaned, ought to be preferred as a stationary generator. The only object against its use was its small area of heating surface; but the greatest part of the wasted hot-air leaving the boiler can be absorbed before reaching the chimney by an appendix vessel, containing water for feeding the boiler. To obviate the defective method of cooling the cylinder by injecting cold water in it, Watt condensed the steam in a separate vessel. Here, in place of injecting cold water, mud and all, into the boiler, this compound is primitively received into the heater, where the water, before reaching the boiler, deposits its insoluble matter, and acquires an elevated temperature. The generator receiving by this process a constant supply of hot water, keeping the steam steady, no perturbation is felt, as when injecting cold water. This heater requires no extra room: its place is below the boiler, and behind the fire-grate bridge, a space commonly filled with rubbish. A great advantage of this heater is, to keep the supply of water in almost a quiescent state, which gives the effectual means of obviating the evil of bad water. The sediment accumulates, in one or more heaps, in the front of the heater, where the water happens to be the least agitated. Those deposits are received in some recipients placed near the man-hole. The generator, fed with water almost clean, is no more liable to burn.

The heater is comparatively of a small size. In the engraving the generator's axis has 26 ft., its diameter 4 ft., while the length of its heater is only 14 ft., its diameter 4 ft. 6 in., and, notwithstanding this, its heating surface is twice as much as the heating surface of the boiler itself, which is here 150 square feet. In reducing the 300 square feet of the inner and outer surface of the heater to 120 square feet of effective heating surface, the whole apparatus has 150 and 120, or 270 square feet of heating surface. This divided by 1 square yard, or 9 square feet, per horse-power, will prove a 30-horse power for the capability of the steam generator. The grate, 5 by 6 ft., or 30 square feet, harmonises perfectly with a 30-horse high-pressure boiler. The upper and lower brick flues are very large, and answer for burning of all kinds of combustible, vegetable, as well as mineral fuel. The boiler and its heater are screwed and cemented together, when set on the furnace. If rivetted together, their transport by land and sea would not be so easy.

Fig. 1.

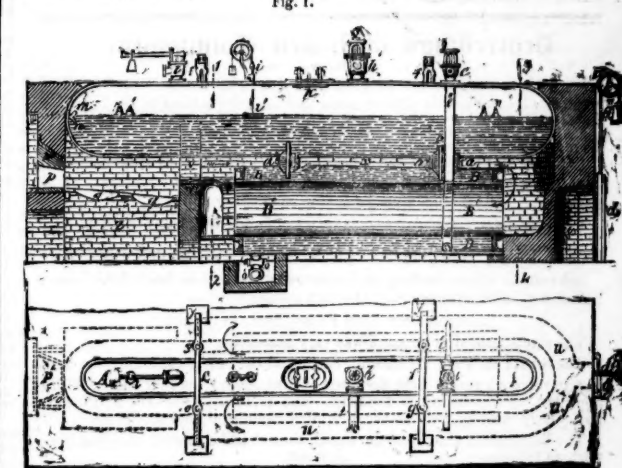
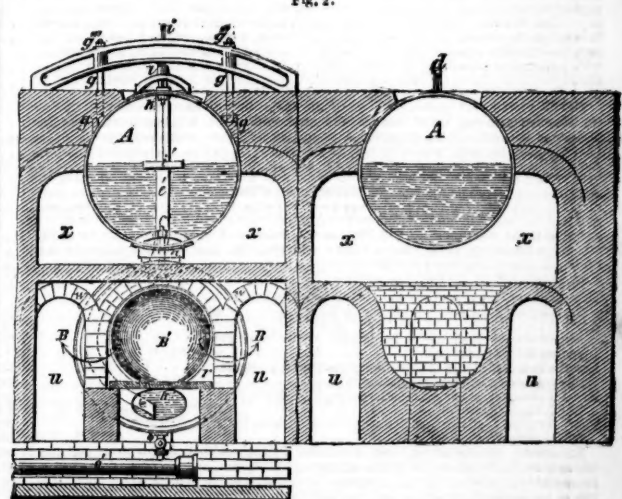


Fig. 2.



REFERENCE TO ENGRAVINGS.

Fig. 1. Longitudinal section.—Fig. 2. Top view of furnace and boiler.—Fig. 3. Vertical section through line 1—2, fig. 1.—Fig. 4. Vertical section through line 3—4, fig. 1.

A A', cylindrical boiler, with hemispherical ends, containing only the steam-chamber, and the water to generate steam.

B B', horizontal reservoir, composed of two concentric cylinders, leaving an annular space filled with water, supplying the generator, A A', by means of the short vertical pipes, b b', set into the sockets, a a'.

c c', joint bolts fastening A to B with curved clamp-irons. The annular space between b b' and a a' is filled on the spot with iron cement.

d, damper, with pulley, d', and weight, d'.

e, stop-valve between the feed-pipe, e', and the plunger-pipe, e'.

f f', two erect cast-iron segments, resting upon cast-iron plates, Y, on the top of the furnace. On those curved girders the boiler, A A', is suspended by its brackets, g, with bolts, pegs, and nuts, g', g', g'.

h h', main steam-pipe and stop-valve.

i, whistle regulated by the float, i', to give the alarm when the water falls below its minimum level.

k k', man-holes to boiler, A, and to heater, B.—l, safety-valve.

m m', gauge-cock and pipe-indicator of maximum of steam.

n n', gauge-cock and pipe-indicator of minimum of water.

o o', discharge-cock and pipe for emptying the water from both vessels, A and B, and for filling them by means of a perpendicular pipe connecting o' with an elevated water-tank.

p, passage from the furnace-door to the fire-grate, q.

r, moveable fire-mouth, in the shape of an arched top bayed window, placed in the fire doorway, its narrow part inside the furnace, for burning bundles of bagass, or dried squeezed sugar-cane; each bundle is pressed

* From the *Civil Engineer*—which acknowledges itself indebted for the drawings to a work that Mr. Leon is about publishing, on "Colonial Machinery for Manufacturing and Refining Sugar."

into the fire-mouth, and set by turns as a furnace-door. This sort of hopper is removed when wood or coal is used.

- g, fire-grate.
- h, movable plate, shifted when necessary to clean the flues.
- i, fire-bricks surrounding the sockets, a, a', not shown in the engraving.
- k, two fire-brick lumps, on which rests the heater, B.
- u, two return brick flues, joining before reaching the damper, d.
- v, interlocked arch bridge.
- w, partition between upper leading flue, z, and lower return flues, u.
- x, cast-iron plates, on which are placed the girders, f, f'—z, ash-pit.

THE COPPER TRADE.—No. II.

If the estrangement between the mining interest and the smelters really were caused by the alleged grievances set forth by the hon. Member for Bodmin, on the part of the miners, I should have hopes of a speedy and lasting reconciliation. It were easy to arrange that copper ores should no more be sold by the 21 cwt., and that the standard should no longer be made up on 27. 15s. per ton, returning charges, or on any returning charges at all. An accommodation between the parties, on such a basis, would be easy, and I should be happy to assist at any conference, as mediator; but, unhappily, these alleged grievances are only used as the stratagems of war. What the miners, as represented by sober sensible men, like Capt. William Francis, want, is more money for their ores. What the hon. Member for Bodmin and his friends require, is shareholders for their new smelting company. Still, I would readily embrace any favourable opportunity of getting rid of returning charges, which are a fiction, and of a standard which is no standard at all, so that the sale of copper ores might appear simply what it is—a transfer of so much copper ore for so much money. To show that there is no real difficulty in arriving at the price of copper ores by a different method to that at present in use, I may state, that when I resided at Liverpool, having to do with merchant importers, who required to go directly to the value of their copper ores in money, and whom the standard would have only perplexed, I hit upon a novel but very easy plan of contract, which was, to agree to give a certain sum, according as the copper market might be, but say 13s. per ton, for every 1 per cent. produce of fine copper in the ores, by assay, with an agreed on variation upwards and downwards, for greater or less produce. Thus, if the ores proved by assay, to give 20 per cent., the price would be 15s. 6d. per ton, and so in proportion. In this way, we had no difficulty in our dealings, without the roundabout medium of variation table and standard, and this mode might be generally adopted, as it will be obvious to those intimately acquainted with the copper trade, that tables on this principle might be readily constructed to show the variation for different produces of the ores, and for different values of copper. Although the relative position of miner and smelter would not in reality be changed in the least, if the alteration I suggest as to weight, returning charges, and standard, were at once adopted, yet it would effectually prevent any miner from thenceforth being mystified into supposing, as I verily believe thousands do suppose, that he allowed the smelter some exorbitant profit, by extra weight and returning charges, and would reduce the sale of copper ores, to the simplicity of the sale of lead ores, where, fortunately, returning charges and standard are unknown; but, to leave what is purely non-essential, or at most, only a form or method, by which the purchase of copper ores has hitherto been conducted, let us turn to the more important question—if the profits of the smelters are excessive, how have they been made so, and what is the miner's remedy?

The whirl and passage of events in these days is so rapid, that the past is soon forgotten. Therefore, although the circumstances I shall speak of are comparatively recent, having all occurred since 1819, when I first knew the copper trade, I must yet become historical.

In 1819, the contest amongst the smelters, that was caused by the advanced position taken in the trade by Vivians' house, on their establishment on the Swansea River, was still proceeding. People to their astonishment, then saw, for the first time, cake copper sold at 10s. per ton under the standard. The profits of the smelters were so reduced, that various companies, finding they were losing money, gave up the trade. This contest was not fully decided when a greater one arose. Messrs. Fox, Williams, Foster, and Co. became smelters—profits were still further reduced, other companies were pushed out of the trade, and Williams' house fought their way to the head of the copper trade. Where great battles are fought, there is usually great slaughter. In these battles of the copper trade, the following is an incomplete list of the slain:—The Cheadle Company, the Landore Company, the Rose Company, the Birmingham Company, the Crown Company, the English Company, Messrs Shears, Messrs. Glasscott's, and Mr. Thomas Williams. They ceased to buy and smelt copper ores, not that they had got too rich, but that they might not get poorer. One would have supposed that the miners would have been perfectly satisfied with the fact, that large companies could afford to give prices for their ores which ruined small companies. But no! when these companies had dropped off, and the number of smelters was thereby reduced, there arose a cry of monopoly! Not that the competition amongst the smelters had at all slackened; on the contrary, at that very time, a great company were building additional works, intending to take a fresh slice of the trade to their share. These works have never been used.

Such contests naturally excited a good deal of ill-feeling, and during my acquaintance with the copper trade, for more than 20 years there was little or no co-operation between the different smelters. The profits were moderate, never reaching, even to the great smelters, 10 per cent. on the capital employed, and being often not half so much, whilst to small smelters and public companies, there was either loss or not profit enough to keep them in the trade.

This sketch brings me down to about eight or nine years ago, and certainly, the mining interest had no reason to begrudge the profits of the smelters. If their works became larger, and their numbers fewer, it was in obedience to the commercial law or necessity of modern times—small profits on large transactions. I see no reason to doubt that but for the violent interference with the copper trade which took place at the period alluded to, the contests and jealousies between the smelters would have continued. But, a crusade was preached, a cry was raised, and an agitation organised, which introduced the Company of Copper Miners of England into the metal trade, to rescue the mining interest from the thralldom of the smelters.—J. PALMER BUDD: *Ystalyfera, December 4.*

DR. POTTS'S PNEUMATIC PILE-DRIVING PROCESS.

WHEAL RAMOTH MINE, FERRANZABULO.—During the last two days, the solitudes of St. Piran have been enlivened by eager and expectant parties crowding to the sands of Wheal Ramoth, to witness the experiment of sinking a hollow iron cylinder, of 24 ft. in depth and 4½ ft. in diameter, through the sea shore, by pneumatic pressure, the discovery of Dr. Potts, whose life has been consecrated to science and works of beneficence to all classes of the community. The invention, though used already with complete success on the Chester and Holyhead Railway, and various other places in England and abroad, had never before been tried for mining purposes. The process of working consists of two parts—one the extraction of the air from the cylinder, and the other that of the water and sand therefrom, by an exhausted receiver, so that, by the double invention, the shaft is made to sink and its contents are emptied in an incredibly short time.

The delay which had taken place in commencing operations, and the presence of a great iron cylinder standing for weeks apparently useless, and buried to half its depth in the sand, had given rise to ludicrous vows on the part of the most incredulous of the villagers—one man asserting his resolution, if the shaft went down, to quit the parish for ever, and another hoping that he might not survive the day of so miraculous an event. The experiment was undertaken under the great disadvantage of tempestuous weather—each blast driving the blown sand into the machinery and the eyes of the workmen, whilst the cylinder, standing in dry sand, instead of being immersed in water, seemed to oppose an insuperable resistance to every effort of man. The first experiment, of extracting sand and water by flexible tubes connected with the receiver, occupied about an hour, when the receiver becoming full, the valve was turned, and the water and part of the sand were discharged on the ground. The iron shaft being now relieved of the water, but still retaining 10 feet of sand, was fitted with an air-tight cover, through the centre of which flexible gutta percha hose was connected with the air-pumps. The pumps, piled by four men, soon indicated the power of the invention, by the gradual descent of the cylinder, which sunk 24 inches in 50 minutes, amidst the wonder and gratification of the bystanders, and the confusion of those who had been disbelievers in the possibility of success.

At the express desire of the proprietor of the mine, to allow the friends of science in the neighbourhood the pleasure of witnessing the result of this discovery, the machinery was left in readiness for further operations, and the parties adjourned to the Tywarthayle Arms, where the labours of the day were terminated, according to the good old mining custom of the county, in convivial discussion over a bowl of punch.—Mr. PARISH having been called upon for a toast, said—On behalf of the Wheal Ramoth Company, I embrace the opportunity of commemorating the triumph of labour and perseverance which it has been our fortune this day to witness, by proposing to you a toast which, I trust, will be responded to by all, and be re-echoed from every clime where genius is appreciated and patriotism esteemed. I request you to fill a bumper in honour of Dr. Potts. (Prolonged cheers.) It is seldom that we miners are roused by more gratifying excitements than the discovery of lodes, which reward the anxieties of adventure. The invention, however, which we have this day met to prove and to celebrate, is a triumph over labour itself, as it enables you, and your fellow millions of labourers throughout this land, to add the tribute of your gratitude and applause to a countryman, whose success alleviates the hardships, diminishes the dangers, and doubles the rewards of a profession, which in this highly favoured county blends pastoral, agricultural, and maritime pursuits with the miner's home. Mr. Parish then alluded to

Dr. Potts as the discoverer of the Oratory of St. Piran, the founder of the Royal Institution of Truro, the promoter of a system of "Home Colonies," and the inventor of the great discovery they had that day admired. (The toast was received with long continued cheers.)

Mr. Potts, in returning thanks on behalf of his father, expressed the gratification his family would derive from the reflection that an experiment so favourably received had been adopted, for the first time, to mining purposes in a county of which his mother was a native, and to which all his family were indebted for unvarying kindness and hospitality.

Capt. GRIPE having proposed the health of Mr. Parish, and "prosperity to Wheal Ocean Mine," Mr. PARISH said—In thanking you for your kind wishes, I take this opportunity of stating, that on first becoming associated with the mining industry of this county, it was my desire to form companies by a careful selection of suitable parties. In gratitude for the pleasure I have felt in being connected with your pursuits, I have sought every opportunity of securing to you those aids of capital, science, and association, which may contribute to render you instrumental in promoting the happiness of less favoured portions of these islands. The experiment you have tried this day is the first of a series of scientific discoveries which I have been fortunately permitted to introduce amongst you, as the means of a local development, enabling Cornwall to command, by the superiority of its mineral, maritime, and geographical position, priority in intercourse with the west, and interchange with the east. Mr. Parish having made some further observations, resumed his seat amidst loud cheering.

Mr. Potts having proposed the health of Capt. Gripe, Mr. PARISH seconded the proposal, stating that, during the five years he had known Captain Gripe, there had been one sentiment only expressed by shareholders in London, and persons in his native county—that in skill, industry, and honesty, he was a pillar to the mining interest, and a true Cornish diamond. (Cheers.)

Capt. GRIPE, in returning thanks, said it had ever been his desire to stand between the adventurers and the miners in a position to give satisfaction to both; and he thought he might refer to the testimony borne by the proprietors of the mines with which he had been connected as showing their confidence in him. Time, however, and patience are necessary to reward the miner's cares; but he hoped and believed that the great prospect generally considered to await Methan, Wheal Ocean, and Ramoth Mines, would eventually be realised with profit and advantage to all.—Mr. PARISH then proposed, in an appropriate speech, "the health of the miners and workmen of Ferranzabulo," after which the company separated.—*West Briton.*

MINING IN SOUTH AUSTRALIA.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Being under obligation to a circle of friends at home to acquaint them with anything of interest in the colony of South Australia, I cannot do better than seek your permission, through your knowledge of me, for a place in your widely-diffused Journal for my communications, which will treat on matters of geology and mineralogy.—There are the extremes of primitive and tertiary rock formation, with no discovery yet of any intermediate order; hill, dale, and plain are coated with a limestone conglomerate, or sand, similar to that now on the bottom of the channel and harbour. My persuasion is, the whole ground has been submerged by the sea. Granite, sienite, and porphyry are seen in isolated drifted masses in the Worthing Mine, where the hills are either limestone or a rock of great percentage of this element. Hills of mica, passing into mica schist, and mica slate, compose the Barossa mining district; distorted clay-slate very similar to the generality of the Cornish strata, or killas, is frequent, but alternating with primitive lime, as in the Adelaide, the Montacute, and the Victoria run of mines. As far as I can discover in the above soils, copper in various association seems to have a decided prevalence in quantity over other metals, except iron. There are sulphurets and carbonates of lead. Tin must not yet be included in the list. In the valleys, or beds, of the rivers are found fragments of granite, porphyry, &c., silicious quartz, beryl, and garnets, glance, and other ores of iron, the companions of tin and gold, the latter of which I should expect to find in the streams, having inspected a series of auriferous parallel lodes, or branches, varying in size from 1 in. to 14 in., in two or three of which assays have found good products of gold—one in particular, which I have seen, yields more massive specimens of this metal than anything I have a recollection of seeing from any part of the world. I believe these specimens, together with reports and drawings, are lodged in London, at the office of Henry Thomas, Esq., the mine broker. These ores come from the Victoria section, and there is no doubt on my mind, considering the similarity in appearance between the productive branches and the others of the group; but there are other deposits to be found by proper exploration. The quantity of gold contained in a haterful of ores is incredible, until the specimens are seen and compared with the same sort of matrix and gold now visible in the lode. These branches were first explored for copper, the discovery of gold being accidental. The substance of these branches might at first be regarded as gossan, but close examination shows a crystalline form, prohibiting the idea of gossan. The gold is found in a brown stone, rather friable and crystalline, presenting cleavage.

JOHN PHILLIPS,
Late Mine Surveyor, &c., Pool, Mlogan.
Adelaide, July 13.

[We need hardly add, that Mr. Phillips's communications will prove most welcome, and for which our columns will always be open.]

By the arrival of the *Zealous* we have received papers from Port Adelaide, South Australia, to the 23d July, which represent the mining interest of the colony as increasing in importance. The mining share market was becoming of some magnitude, the daily transactions being numerous, and for large sums. Various new discoveries are spoken of, and other companies had been formed. There had been a good deal of business done in the Burra Burra shares, which had advanced from 140s. to 162s., and had been done at 160s. per share. Large orders to purchase had been received from the neighbouring colonies.

The Wheal Gawler Mines Association had been definitely formed, and the whole of the shares, 10s. each, subscribed for; they were selling at 15s. by the 5s. prem. The associated shareholders had elected as directors, up to the 30th Sept., 1849, the following gentlemen:—Messrs. H. C. Stakeman, Charles Flaxman, W. C. Crane, William Randall, and Henry Stanford.—Messrs. Flaxman, Randall, and Stanford being appointed trustees. Specimens of a quantity of very beautiful silver-lead ore, from the Fahlzer lode, just raised, had been exhibited to the proprietors, and the general prospects of the mine are represented as very favourable. The following account of a personal visit to this mine will be found of interest:—"The site of this company's operations forms part of the Glen Osmond range of hills, near town. Having the advantage of being accompanied in our inspection by a very experienced mining captain, recently arrived from England, our remarks are given with greater confidence than if we had depended upon individual observation of our own. It is evident, that the Wheal Gawler, as well as the neighbouring mines, is not only rich in lead ore of a superior quality, but in the argentiferous or silver-yielding ores, which are distinguishing the Glen Osmond and Belvidere mines. Of this ore a fine specimen was unexpectedly met with in one of the new piercings while we were present, and lower down samples have subsequently been found of very fine quality. The specimen we met with was identical with some fine samples, produced by us on the same day from the Glen Osmond workings. We noticed in particular a lode, which has been termed the Fahlzer lode (the word *lode* signifying, in German, ore), from the presence of the earth, or ore, so called in Germany, where it is never met with but in conjunction with the finest silver—the only two places in Hanover where Fahlzer is found being as rich in silver as 50 per cent. of the produce. In the course of our inspection, it became evident that there existed, near the base of these argentiferous hills, what is termed by miners a "cross-course," or natural subterranean wall, forming a clear and well-defined line of demarcation as respects the minerals deposited in them, and running about north-east and south-west, some 200 fms. distance from the plain, the ores lying entirely eastward of the wall. The lodes of the Wheal Gawler section we found to be seven in number, with a certainty of their increase to ten, though, from the angles of two of the lines, it is not improbable that they may prove to have amalgamated, as they say of railway lines. We noticed one feature of advantage to the shareholders—that at present they have only occupied one-half of their purchase, or section, and that it runs longitudinally beyond their present seat of operations, which, judiciously carried on, can hardly fail to prove shortly very remunerative; for, while some mines have to pay away a profit for cartage, we believe the Glen Osmond ores reach the port for about 8s. per ton, the drays bringing back return loads to the city. In the neighbouring mine of Wheal Watkins, a specimen of ore has been raised of moderate dimensions, estimated to contain between three and four tons of metal; and we have this evening learned, that the Fahlzer lode of the neighbouring hill, Wheal Gawler, has been increasingly productive of fine ore as it increased in depth, as well as other parts of this remarkable property, on which the shareholders have wisely decided upon preparations for extended operations. From an intimation thrown out in our first article, having reference to South Australian mines, it would be seen that we were disposed to build our expectations somewhat higher than our predecessors, in reference to the argentiferous lead-ores of the province, apprehending that the value of its lead, as a matrix for the more precious metal, was not fully estimated. Some years back, the Almagreza lead mines, in Spain, yielded, even by the old process of analysis, and the less skilful management of that country, the very valuable amount of 400 ounces of fine silver per ton of ore; and so productive were these mines, in which some of our colonial miners have been employed, that, from 1830 to 1845, they produced the enormous amount of a million and a half sterling, or 100,000l. per annum, to the fortunate proprietors—the ore

being smelted at Alicant, about 40 miles distant from the mines—the owners thus securing all the profits and all the silver. Now, the miners here, who have worked at Almagreza, assert that our ores are quite as rich as those of Old Spain; and we may mention, as a curious fact for the geologist to speculate upon—not that we conceive lead ore to have any influence in keeping the world balanced, though it undoubtedly has some share in modern times in keeping the balance of nations—viz.: that all the principal argentiferous lead mines are in similar latitudes, north or south of the equator, say 35° or 40°, as Texas, Yucatan, Mexico, Alicant, and Adelaide."

The Belvidere Mining Company had likewise been formed, and the following gentlemen elected directors:—Messrs. M. Smith, J. M. Waterhouse, E. J. Tod, P. Levi, M. P. Hayward, E. L. Montefiore, and E. Solomon, Mr. Barnard being appointed secretary. The shares were fixed to be 640 in number, at 5s. each, making the capital 3200l. The purchase of the land amounted to about 640l., and there have been 928l. paid up—so that the sum paid up on each share is 1l. 9s., and the amount of call remaining to be made is 3l. 11s. per share. The price of these shares in the market was nominal. Several drays of fine ore were on the way to the port, which, from specimens exhibited, were likely to prove very rich in silver. From the general operations of the men employed, the prospects of this mine were considered very satisfactory. The shares of the Adelaide Mining Company had been largely dealt in at 2l. 5s. to 2l. 6s. The affairs of the Port Lincoln Mining Company were progressing favourably.

We understand that a gentleman has arrived by the *Sibella* (G. J. Walters, Esq.), whose appearance will be hailed with great satisfaction by the mining interest of this colony. His object is the establishment of large and powerful works for the smelting of copper ore in this country, from which our mining interests will derive very great advantages, and receive a fresh impulse. The works are to be established under a patent, and a vessel is shortly expected, laden with abundant materials, accompanied by practical gentlemen and select first-class operatives, who have already acquired considerable experience in the working of this patent at Swansea, after having passed their youth and manhood in working under the old system, the adoption of which in these colonies is precluded by the high price and large expenditure of coal, as well as the greater amount of labour required. We were quite prepared to learn that the parties to this enterprise unite the most ample pecuniary means with consummate practical skill.

Much excitement had been caused by the judicial proceedings taken against the Adelaide Company for the payment of royalty on the mineral collected, and a public demonstration had been made against any attempt of the Crown to impose a tax of the kind. A public meeting, likewise, had been held, when a resolution was passed for drawing up a memorial to the Queen, praying her Majesty "not to sanction any future attempt to impose on the colonists the unjust, obnoxious, and partial royalty tax." After a lengthened discussion upon the subject, the following resolution was also passed:—"That whilst this meeting entirely disapproves of any royalty taxes being imposed on lands sold or granted, without any reserve to the Crown being made, it at the same time is resolved to prove to the world that South Australians are by no means in the background in the march of liberality and intelligence, and they beg to call the most serious attention of the Home Government to the fact, that as the great Ruler of all things intended the land for the sustenance of mankind, it is prudent in these enlightened days to put a stop to the practice of cutting it out and selling it in acre pieces, and that they will, as wise rulers ought to do, hold all the unsold land in sacred trust for the benefit of the people, and thereby prevent the awful consequences which increase of people and increase of poverty cannot fail to bring about."

MINING IN IRELAND.—THE MURLOUGH-BAY COLLIERY.—The Belfast Whig

contains the following interesting report with regard to the commencement of mining operations, on an extensive scale, by an English company in the county of Antrim; the event is one of considerable importance, at least in the north of Ireland:—"For upwards of 12 months past, certain English capitalists have been engaged in making preliminary explorations of the extensive mineral basin on the north-east coast of Antrim, which has a sea boundary from Torhead to the Bay of Ballycastle, and runs several miles inland. The whole of this basin, comprising many thousand acres, is held under lease from the Earl of Antrim. Active investigations have discovered, in the Ballycastle section of the property, beds, or veins, of ironstone, some of which are 2 ft. 9 in. thick, of a quality equal, if not superior, we learn, to the celebrated black band of the west of Scotland. The seams of coal vary from 2 ft. 6 in. to 6 ft. in thickness, and embrace almost every variety, from the rich and bituminous produce of the north of England, to the anthracite, or blind coal, of Wales. The colliery which has just been opened lies contiguous to Murlough Bay, a fine natural harbour, extending from Torhead, on the south, to a point near Fairhead, on the north. The bay has 7 fms. depth of water, beyond a ledge of rock jutting from its centre, and at which, in the olden times, coal and agricultural produce were exported for the consumption of the coast. The colliery works are situated near the base of one of the spurs of the range of lofty basaltic hills, the loftiness and grandeur of which are exceeded only by the wonders of the Causeway. Three seams of coal have been opened, by means of adits, or levels, which are driven into the side of the hill, and the produce is conveyed by railways to a drop, or jetty, which will be used for temporary shipment, until the construction of a pier upon a large scale (for which, we understand, the working plans are being prepared), at the point in the bay already indicated. Tuesday last being appointed for the opening of this colliery, several gentlemen visited the works, and expressed much satisfaction with the quality of the coal and the facility of working it, and with the arrangements made for its shipment. The inhabitants of Ballycastle, naturally much interested in the erection of the works, and in the intended benefit to their immediate district, testified their respect for the English company by illuminating their picturesque little town, by the blazing of tar barrels, the parading of bands of music through the streets, and other modes of rejoicing. There was also a tolerably good display of fireworks. A celebratory banquet was given by the proprietors to the gentlemen of the town and neighbourhood, at the Antrim Arms, Ballycastle. The chair was taken by Mr. Gillan, from London, one of the proprietors of the company, who was supported on his right by J. McGilgowney, Esq., of Clarendon; on his left by Capt. Boyd of the Honourable East India Company's service. The vice-chair was filled by another proprietor, Mr. Brown, of Cushendene-house. The chairman, in proposing "Prosperity to the Murlough Bay Coal Company" (which was drunk with much enthusiasm), congratulated the company upon the opening of the first native colliery in the county of Antrim, and dwelt upon the vast local advantages that would arise from the rich and populous district being supplied with a necessary of life, and the first element of all manufactures, from its own mines; and upon the great saving of native capital—the money spent in the importation of coal from England and Scotland into Ireland, being estimated at between 2,000,000l. and 3,000,000l. sterling, and the freight amounting to nearly one-half of that sum. He also adverted to the intended opening of a colliery at Ballycastle, and to measures being taken for smelting the rich iron ore in that district. Mr. W. D. Owen, of London, concluded an animated speech, by remarking that it was a gratifying fact that the colliery had been opened at nearly one-half of the estimated cost—a fact which it was his duty publicly to state, as an act of justice to the party who had executed the work. Mr. Kenneth, of London (a proprietor), reiterated the sentiments expressed by the previous speaker, and stated his intention of frequently visiting a district in which he had met with so hearty a welcome. Other toasts followed, and the meeting broke up. On the following day all the miners and workmen in the employment of the company were regaled with a substantial dinner of roast beef and plum-pudding, to which, we need hardly say, they did ample justice. Mr. Owen delivered an energetic address to the men, which was followed by an impressive pastoral admonition from the Rev. Mr. Hincks, the rector of Carey.

THE GOLD MINES OF CALIFORNIA.—The recent arrivals from the United States refer to the continued excitement respecting the "gold region" of Upper California. Previous reports are said to be confirmed and repeated, that from \$60,000 to \$100,000 daily are extracted. It is said to be about 23 carats fine. A vessel from St. Francisco had brought to Mazatlan 75 lbs., and sold it at \$14 15c. per oz. There were several whale ships, and other vessels, laid up there, about 16 in all; their crews had deserted, and gone to the gold region. The ship, *Huntress*, which sailed from New York on the 18th of April, had been there for some time with Government stores, but could not discharge her want of launches, and two-thirds of her crew were off, and it is supposed she would be obliged to abandon her voyage to Canton. As much as \$90 per month had been paid for sailors. Mechanics and labourers, of whom there are very few, get \$5 and \$6 per day, and common cooks can and do get \$100 per month; and, in fact, the inducements at the mines and on shore are so great, that people will not go to sea. There are about 400 whites and a few Indians engaged in the labour of the mines. It is said—taking the general average, and including the time in changing places and seeking better excavations—1 oz. of gold daily was the product of each man. The New York journals publish a letter from a ship's captain, at Monterey, announcing that his crew had abandoned him, and stating that a sailor will be up at the mines for two months' work on his own account, and come down with from \$2000 to \$3000. Letters from Washington add to these statements an announcement that the "Secret of War has received very interesting communications from California, in regard to the gold region. It appears from these documents, that the value of the gold mines in that region has scarcely been overrated, even by the most sanguine of the many adventurers in mining. The documents will be communicated to Congress at the opening of the session." Yet, in the face of these glowing statements, the *New York Herald* admits—"As yet we have received no importations of the gold thus gathered."

THE ELECTRIC TELEGRAPH.—A new telegraph company has been established, called the Scottish Electric Telegraph Company, for supplying the chief towns and cities of the north. In America there are now, either in operation or in construction, no less than 6679 miles of electric telegraph wires, and several hundred miles more will shortly be completed in the western states.

* See his letter to Sir Charles Lemon, in the *Mining Journal* of the 12th February last.
† For detailed description, see *Mining Journal*, May 13, 20, and 27, 1848.

The Compendium of British Mining.

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BY J. T. WATSON, ESQ., F.G.S.

CAMBORNE DISTRICT.

EAST POOL TIN AND COPPER MINE, in the parish of Illogan, is held on lease of Lady Bassett, for 21 years, at 1-15th dues, and about 14 years of the lease have expired. Divided into 128 shares, and upon an original outlay of 51. per share, the mine first made returns in 1834, and yielded from that period to end of June, 1843, 17,518 tons of copper, realising 136,431. 3s. 6d.; out of this amount a considerable sum of money was expended in the necessary machinery, and 29,824. divided as profit among the shareholders. From this period (1843) the mine began, though only 90 fms. deep, to show symptoms of decay, and in 1846 the returns of copper fell to 594 tons, and in 1847 to 560; about this time, too, to add to its misfortunes, a defalcation arose on the part of the purser, who was also Lady Bassett's steward, and the consequence was calls, amounting in all to 151. per share, have been made upon the shareholders. To the end of June, 1848, the total returns in copper have been 22,786 tons, yielding 163,144. 16s. 6d., besides a considerable quantity of tin, particulars of which I have been unable to obtain. At the present time the management is in the hands of a committee, and the returns in tin and copper are more than meeting the cost of working, and great expectations are formed that the mine may, in some degree, recover its former position among the profitable mines of the district.

DOLCOATH, also in Camborne district, is principally in the hands of Cornishmen, and derives its chief claim to notice from its being the oldest mine in Cornwall, having been worked with but little interruption for a century past. It is 300 fathoms deep, and made profits to the extent of 300,000. The present returns yield about 7000. a year, and which can barely pay expenses. In Pryce's *Mineralogy Cornubiensis*, published more than 50 years since, Dolcoath is mentioned as one of the most extensive and most important mines in Cornwall: the depth then was barely 100 fms., and the opinion of miners, at that time, limited the productiveness of copper lodes to a depth varying from 40 to 80 fms., and although the ore was known to exist at a greater depth, it was considered to be deteriorated in quality, and scarcely worth pursuing; but that this was a fallacy, many of the best mines, such as Consols, Tresavean, &c., sufficiently testify. In Wheal Abraham the lode in the 240 fathom level was larger than it was nearer the surface. In November, 1814, a large cavern was discovered in Dolcoath at the depth of 170 fms. from the surface; its form was very irregular, from 18 to 20 fms. in length, 3 fms. high, and from 4 ft. to 9 ft. wide; in the lower part, and wedged between the walls, there are several rocks, between which are spaces which communicate with other cavities below. In the valley the workings were carried to such an extent, that no timber can reach from side to side in the levels, and still the lode is found to extend to a greater width. The miners worked in a swing stage, which they drop against such parts of the side as they intend to take away; and then letting themselves down by means of a swing chain ladder, they blast down immense quantities of rock. In 1810, silver ores were raised in this mine to the value of 2000. The returns in copper ore from this mine, from 1814, to June, 1848, have been 238,059 tons, yielding in money 1,361,681. 18s. 6d.

[To be continued in next week's Mining Journal.]

Mining Correspondence.

ENGLISH MINES.

ANTIMONY AND SILVER-LEAD (St. Kew).—Capt. W. Hart (Dec. 10) reports—I was over this set yesterday. In the field outside where the engine-shaft is, they have cut a new lode and sunk upon it about 9 ft., full of gossan and muncie; they could not go any deeper for the water; they have also cut Wheal Sarah lode in the same field, where there is equally as promising as below in Wheal Sarah sett, where they are now raising lead from this lode; it is also full of gossan; I should say, from appearances, it is rich for silver, it is 2 feet big. These two lodes come across one another in the same field, at the junction of which large quantities of ore may be expected. Captain Nollwell has been here to see the former lode, and he says he never saw anything since he has been in the country so like Trebruge, and there is no doubt of this making a mine, and a first-rate one; the above lodes are in a most beautiful strata of ground—a light blue killas, quite a living strata for lead, and with the new year, I hope you will see returns in the market from this mine.

BARRISTOWN.—Capt. T. Angove (Dec. 8) reports—We have suspended the 27 fm. level cross-cut south for the present, as the ground is so irregular and broken; we have discovered no symptoms of the lode in driving this level. The 16 fm. level end east is about 12 fms. east of Nangle's shaft; the lode in it is about 4 ft. wide, composed of carbonate of iron, with a small branch of lead on the north wall. We expect to discover the ore gone down in the bottom of the adit level in this end, as soon as we get through the cross-course; there is a winze a few fathoms east of this end which, when communicated, will leave tribute ground. The adit end east is at present producing about a half ton per fm.; the lode in the back and bottom behind it is looking much the same. We have about 25 tons of ore broken, which will be ready for shipment in a few days.

COMBLAWN.—Capt. William Lean (Dec. 14) reports—I beg to send you the produce of the stone of lead broken from the bottom of the 20 fm. level in this mine, on the 6th inst., which was carefully assayed, and the result is quite satisfactory respecting the quality; the principal thing to look for now is the quantity, which I hope by-and-by you will obtain.—Produce of a stone of lead ore broken from the 20 fm. level, in Comblawn Mine, Dec. 6, 16 cwt. 0 gr. 14 lbs. of lead, and 54 ozs. 6 dwt. 12 grs. of silver, to the ton of ore.—J. PRINCE.

CWM ERFIN.—Capt. A. Francis and S. Nicholls (Dec. 9) report—We have just returned from Cwm Erfin, where we have finished our pay and setting. Our last month's raising was about 10 or 12 tons; and we shall send a sample to the different buyers of a parcel, computed 20 tons, on Thursday next. Our 20 fm. level east is in a good lode at present, producing more than a ton of ore to a fathom; the stopes, by the side of this level, is producing some pretty good ore, and likely to do so for the future; the 20 fm. level, driving north through the lode, is not yet far enough to be under the ore ground seen in the 10 fm. level; there are some spots of ore seen in the driving at present, and looking promising; the stopes, over the 10 fm. level, are producing about 8 or 10 cwt. of ore to a fathom, and will pay well for working the ground. Our cost for the coming month will be from 180. to 200., and our returns equal to this, and a little the right side of the book, if our bargains yield as much as we have every reason to expect.

DEAN PRIOR AND BUCKFASTLEIGH.—Capt. H. Choake (Dec. 13) reports—The lode has been very hard and bad for taring, although, at the present, it is somewhat improved for driving, but at present unproductive; the indications in the present end are more favourable than in the past few days, not only for the lode being easier for boring, but its properties more congenial for ore, composed of capel, with spar intermixed, and pryan; we have laid open the lode about 11 ft. 6 in., but have not as yet discovered the hanging-wall. I am still of opinion that we have a better part of the lode further south, but that remains for trial. The indications of the south part of the lode, in the level above, were the only inducement and criterion as to proving the lode to the 40 fm. level.

DEVON AND COURTENAY.—Captain N. Secombe (Dec. 12) reports—The lode in the end driving west, in the 40 fm. level, on the gossan lode, is 3 ft. wide, composed of muncie, soft spar, peach, and spots of ore—a very promising lode; the ground is also favourable for driving; in the cross-cut driving south, in this level, we have not yet intersected the south lode, the ground having been, and still continues, harder than was anticipated. In the end driving east, on the south lode, in the 50 fm. level, the lode is 2½ ft. wide, composed of capels, muncie, spar, and occasional stones of ore.

EAST CROWDALE.—Capt. S. Paul (Dec. 9) reports—We have cut the elvan of the lode in the cross-cut, north from Diamond's shaft, in the 17 fm. level; I cannot as yet give you any information as to the character of the lode, but hope to do so in my next report. The ground in the cross-cut south, in this level, is much improved since my last report; the spar is wearing out, and giving place to a clean blue killas. The adit level, driving west on Thomas's lode, continues just as usual—a lode upwards of 16 ft. wide, composed of peach, pryan, spar, muncie, and tin, and at present worth about 40. per fathom. The stopes in the back of this level are rather improved in the past week; the lode is 16 ft. wide, composed of killas, peach, spar, muncie, and tin, worth upwards of 20. per fm. Our engine, stamps, &c., are in good order.

EXMOOR WHEAL ELIZA.—Capt. W. H. Whitford (Dec. 13) reports—Since my last communication everything connected with the working part of this mine has been progressing favourably. The engine has kept the water, so that the pumpmen, without any delay, have regularly prosecuted their sinking operations; and it affords me great satisfaction to be in a position to state with confidence, that in proportion to the development of the mine, so we have

fresh indications presenting to our view; nor can there be but little, if any doubt, but that the next level will be a very productive one. Our ground in the shaft is getting better every fathom—not only more easy, but more congenial for copper, to which, I presume, we are approaching.

HERODSFOT.—Capt. J. Medlen (Dec. 13) reports—The lode in the 106 south is 15 in. wide, producing ½ ton of ore per fm.; the lode in the north end, in this level, has not been cut into since last report. In the 94 fm. level south the men are now cutting into the lode, which has a good appearance, but we are not yet got sufficiently through it to judge of its size or quality; in the north end, in this level, the lode has not been cut into since last report; in a winze, sinking under this level, the lode is 3 ft. wide, producing saving work. The 82 fm. level south is without any material alteration; in this level north the lode is 8 in. wide, producing 7 cwt. of ore per fm.—an improving end. The winze, sinking under this level, is going by the side of the lode, in order to get to the 94 fm. level as soon as possible for ventilation. In the 72 fm. level south the lode is small and unproductive; in this level, north of the slide, the lode is 1 ft. wide, producing 7 cwt. of ore per fm., and has a very promising appearance. The stopes under the 52 fm. level, south of Windsor shaft, are producing saving work, sufficient to pay the expense of working. Windsor shaft is sunk 2 fms. under the 72 fm. level, and 3 fms. under the 82 fm. level in the under lift; by sinking this shaft in two lifts, we hope to communicate with the 94 fm. level by the end of January, or early in February. The tribute part of the mine has an improving appearance. We should beg to call your attention to the appearance of the 106 fm. level; by sinking the shaft to this level we have unwatered below the 94 fm. level, and within the present extent of our workings in the 72, 1700 fms. of ground, which we confidently anticipate contains upwards of a thousand tons of ore, independent of the backs over the 94 fm. level, and the unexplored ground north and south; this will enable you to calculate in some measure on the extent and value of your property in this mine. We are laying open the ground for tribute with all possible despatch, and from which we hope to be able to increase our samplings. We intend in future to sample twice in the month, and we are going to sample 50 tons on Saturday next.

KIRKCUDBRIGHTSHIRE.—The agent (Dec. 9) reports—The lode in the 50 end, east of Keith's, is 18 in. wide—a kindly spar, mixed with stones of lead. The lode in the winze in the 40, west of Keith's, is 3 ft. wide, worth 1 ton to the fm.; the lode occurs in bunches in the lode. The lode in the winze sinking under the 30, east of Stewart's, is 3 ft. wide, a good branch of lead in the west end, and we hope it will spread over the winze in going down. We have holed the rise to the 20 above, and thus giving air to both levels. The lode in the 20 end is 4 ft. wide, containing soft spar and jack, mixed with fine stones of lead. The new wheel is working well, and we hope the water will be in for in a day or two.

LLWYN-MALEES.—Capt. H. Francis (Dec. 5) reports—The London shaft continues to sink through a fine course of ore. Oliver's winze is also opening the same fine channel of lead ore, and the 14 fm. level, driving west, shows the continuance of it westward.—December 11.—The lode in the London shaft has improved, if anything, since my last report. In Oliver's winze there is still a fine beautiful lode. With this winze, as with the London shaft, all the north branches are falling in with the south, or main, branch of ore in the vein, which is now becoming wider and more solid. I have never seen a better lode in the 14 fm. level west than we have at present; our prospects in this level, and in the two shafts, are very encouraging. We have some good ore in the stopes over the 14 fm. level west. We have a nice branch of ore in the stopes, west from London shaft, over the 8 fm. level. The 8 fm. level west is poor, and I have now suspended it.

MENDIP HILLS.—Capt. F. C. Harpur (Dec. 11) reports—The men have commenced sinking below the 20 fm. level, north of the upper shaft, where the lode is about 5 ft. wide, composed principally of spar and flookan, with a small branch near the foot-wall side, containing a little lead. In the slag department we have, during the past week, cleaned a few tons of very good slags, and hope, by the latter part of the present week, to get a sufficient quantity to keep the furnaces engaged two days. In the slag ground, the bed of stuff, which we are at present opening through, is about 15 ft. thick, intermixed with some tolerable good work for slags.

SOUTH WHEAL TRELAWNY.—Capt. W. Jenkin (Dec. 11) reports—The lode south of cross-cut, in the 30 fm. level, is from 18 in. to 2 ft. wide, composed of muncie, fluor-spar, and sprigs of lead, and with a dark killas strata—ground just the same as last mentioned; the lode north, in the same level, is still disordered by a cross-course and floor of elvan. The elvan floor is cutting out fast; it is composed of muncie, barytes, and capels, with sprigs of lead, also a dark killas strata—ground more favourable.

TREHANE.—Capt. S. Richards (Dec. 11) reports—The ground in Kelly's shaft continues favourable for sinking. In the 55 fm. level, both north and south, the lode is worth 9 cwt. of lead per fm.; the stopes in the back of this level are producing ½ ton of lead per fm. The lode in the 45 fm. level north is 2 ft. wide, composed of can, spar, and good stones of lead; in the stopes, in the back of this level north, the lode is worth about ½ ton of lead per fm.; in the stopes, in the back of this level south, and also in the bottom of the 30 fathom level north, the lode is yielding 6 cwt. of lead per fm. In the cross-cut west, in the 30 fm. level, there is no alteration of importance. There has been but little done in the costean pits since last report, on account of an increase of water from heavy rains. The last parcel of ore, sold to Messrs. Robert Michell and Son, at 194. lbs. per ton, weighed 72 tons 8 cwt. 1 qr. 3 lbs.

TRELEIGH CONSOLS.—Captain Wm. Symons (Dec. 9) reports—In the 118 fm. level, north of Garden's, the main lode is cut through, which is 3 ft. wide, composed of muncie, spar, and ore—very kindly. In the 100, west of ditto, the lode is 15 in. wide, rather more promising than last week. In the 90, east of east cross-cut, the lode is 20 in. wide—no ore to value; in the 90, west from east cross-cut, the lode is 1 ft. wide, worth 8. per fm.; in the winze below the 90, the lode is 2 ft. wide—no ore to value, but rather promising. In the 70, west of ditto, the lode is about 2 ft. wide; it has a favourable appearance—not much ore. In the 60, west of ditto, the lode is 10 in. wide, but little ore; in the winze below the 70, west, the lode is 2 ft. wide—no ore to value. In the 50, west of ditto, the lode is 2 ft. wide, looking more kindly, with occasional stones of ore; the cross-cut, south from Wheal Parent, to cut Wheal Parent lode, is driven about 8 ft.; in the adit east, on the middle lode, the lode is 1 ft. wide—no ore. At Garden's, the shaftmen are timbering down the shaft, to get the kibble to the bottom as soon as possible; nothing has been done on the lode for the last two days; we shall drive east and west.

WEST WHEAL JEWEL.—Captain R. Johns (Dec. 11) reports—In the 70 fathom level, west of Williams's cross-course, on Wheal Jewel lode, the lode is unproductive. In the 57 fathom level, west of Williams's cross-course, on the same lode, the lode not taken down in the past week; when last taken down, it was worth 3. per fm.; in the rise, in the back of the 57 fm. level, west of Williams's cross-course, on the same lode, the lode is 18 in. wide, worth 4. per fm. In the 47 fm. level, west of Williams's cross-course, on the same lode, the lode is heaved by a cross-course; in the deep adit, west of Hodges's cross-course, on the same lode, the lode is unproductive. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode not taken down in the past week; in the deep adit, west of Quarry shaft, on the same lode, the lode is 2 ft. wide, producing little tin. The stopes east of Pryor's winze, in the back of the 12 fm. level, on Tolcarne tin lode, are working on tribute, worth 10. per fm.; the stopes west of Pryor's winze, in the back of the 12 fm. level, are working on tribute, worth 24. per fm.; the stopes in the bottom of this level are working on tribute, worth 20. per fm.

WILLIAM AND MARY WORTH.—Captain W. Bice (Dec. 12) reports—Our operations in the old workings have of late been considerably retarded, in consequence of the influx of surface water, and are, at this time, suspended, as we think it advisable to defer the working in the old backs, until the lode has drained for a short time. We shall, however, resume the working as soon as possible. We have been engaged in making a dressing-floor, as we find the greatest portion of the work requires dressing; and also commenced a deep adit level, to drive west on the course of the south tin lode; this lode, from its present appearance, which is of a favourable character, presents indications for tin, and will, I am fully persuaded, amply repay the moderate outlay required to develop it.

WHEAL MARY ANN.—Captain P. Clymo (Dec. 4) reports—The lode in the 50 fm. level, south of the boundary, is 2 ft. wide, and worth 8. per fm. The lode in the 40 fm. level, south of Barratt's shaft, is 4 ft. wide, and worth 10. per fm.; the stopes in the back of this level are producing a fair quantity of lead. Pollard's shaft is sunk 10 ft. under the 40 fm. level. The lode in the 40 fm. level, north of Pollard's shaft, is 1½ ft. wide, and worth 5. per fm.; the lode in the same level, south of this shaft, is 2 ft. wide, composed of can and some lead—there is every prospect of an improvement in this level shortly. The lode in the 30 fm. level, south of Pollard's shaft, is 1½ ft. wide, and worth 6. per fm.; the stopes in the back of this level are looking well.

WHEAL TRELAWNY.—Captain J. Bryant (Dec. 5) reports—The lode in the 72 end, north of Phillips's shaft, is 2½ ft. wide, composed of muncie, can, and lead, worth 14. per fm.; the south end, in this level, is worth 10. per fm. The lode in the 62 end, north of this shaft, is still large, and worth 28. per fm.; the south end, in this level, is very similar to my last report; the stopes in the back of this level are producing a fair quantity of ore. The lode in the 25 end, north of Trelawny's shaft, is still a fair size, and worth 6. per fm.; the stopes in the back of this level are, on the whole, looking well, but ground rather hard; the winze sinking under this level is without any material change since my last—worth 10. per fathom. The stopes in the back of the 42 fm. level, and the tribute pitches in this part of the mine, are producing a fair quantity of ore; there is a little improvement in the ground sinking in Trelawny's shaft under the 52. There is no change of importance in the 22 cross-cut east. At the north mine, the lode is still a good size, and very promising, producing good stones of ore; there is more water flowing out of this end than I have seen for some time past; the three tribute pitches, in the back

of this level, are turning out tolerably well.—December 13.—The lode in the 72 fathom level, north of Phillips's shaft, is 3 ft. wide, composed of can, muncie, and lead, worth 12. per fm.; in this level south the lode is worth 10. per fm. The lode in the 62 end north is not so good as when last reported, worth about 1 ton of ore per fm.; the south end, in this level, is worth 6. per fm.; the stopes in the back of this level are yielding a fair quantity of ore. Trelawny's shaft is still being sunk under the 52, by 12 men, with all possible speed; but the late incessant rains have considerably increased the water, which rather impedes our progress; the lode in the 52 end, north of Trelawny's shaft, is large, and worth ½ ton of ore per fm.; the stopes in the back of this level are very similar to my last report; the winze under this level is suspended for the present, in consequence of water. The stopes in the back of the 42 fm. level are producing a fair quantity of ore. The 22 cross-cut east is still being driven by four men, without any important change. At the north mine, the lode in the 30 end, north of Smith's shaft, is still large, producing stones of ore; the pitches to the south of this shaft, in the back of the level, are producing equal to my expectation.

AUSTRALIAN MINING COMPANY.

An extraordinary general meeting of shareholders was held, on Monday, the 11th inst., at the offices of the company, Adelaide-place, London-bridge, Mr. HORNE (chairman of the board of directors) in the chair.

The advertisement convening the meeting having been read.—
The CHAIRMAN said, he would explain the object of calling them together so soon, only four months having elapsed since they last assembled there. At the previous meeting it was stated, that whenever any alteration took place in the affairs of the company, the directors would give the shareholders notice of it; and it was in fulfilment of that promise that they were now convened. He was happy to inform them that their prospects had much improved; and that the strong anticipations which had been expressed in former reports, in connection with the indications of their various mines, were now being completely verified, and, for the first time, they had now a rich and promising mine actually at work at Tungkillio. Their local agents had been conducting their operations in a systematic way—not regarding the present day merely, but looking to the future prospects of a rich and excellent mine. The consequence of which was, they had not obtained a return so soon as they might expect, and more hands would require to be employed. This necessitated a small call upon the shareholders, as had been before adverted to; and the directors hoped, if they raised the anticipated quantity of ore next year, to be able to dispense with making a further call; although of this they could not make any possible promise. The prospects of the other mines were also rather brighter than they had been on former occasions.

The SECRETARY (J. A. Joseph, Esq.) then read a special report of the actual condition and future prospects of the company, according to the latest advices from the colony, dated 16th July, 1848. It stated:—

The following are the last reports received from Capt. Phillips from the mines, which will show the actual state of the workings:—

Tungkillio, June 30.—Goad's winze is 6 fathoms below the 30; the lode is 5 feet wide, and will, in the north end of it, turn out 6 tons of copper ore per fathom—worth 120. Stephens's winze is now 4 fathoms below the 30, and will produce 1 ton per fathom, at 20. The lode in the 40, north of Rabbins's winze, is promising, but not yet productive. The lode in the 40 south is also unproductive: we are pushing forward these ends with all despatch, so as to communicate with the adit from the foot of the hill, and to lay open the full course of ore seen in Goad's and Stephens's winzes. I have been through the mine three times this week, and never seen it looking so well as at present.

July 1.—In the adit north, on Baker's lode, the lode in the end is 2 feet wide, but not productive.

Anstey's Shaft.—This shaft is intended to cut Anstey's lode, 30 fathoms under adit. It is now 3 fathoms below adit. The horse-whim room is completed. We hope soon to get the whim erected. The water is now about 100 gallons an hour, which the men draw with buckets. When the whim is erected and pumps fixed, it will be a great economy and speed.

Anstey's Adit.—In this end there is a large promising lode, containing some stones of green carbonate, and is promising to be productive at a deeper level, and even in the adit, as we advance into the hill.

The 40 South, on Baker's Lode.—In this end the lode is 3 feet wide, and contains some stones of blue and green carbonate.

The 40 North, on Baker's Lode.—The lode in this end is not productive, but as it gets nearer the course of ore below the 30, the alteration in its dip, and other indications, induce us to expect we shall soon have the pleasure of seeing this rich level.

Goad's Winze, under the 30.—The lode in this winze is 5 feet wide in its north end; it will produce 120. worth of ore to the fathom. This winze is within 4 fathoms of the back of the 40.

Stephens's Winze, under the 30.—The lode in this winze is 2 feet wide, and will produce 20. worth of ore to the fathom, and is very promising to improve. The winze is within 5 fathoms of the back of the 40.

The 30 South, on Baker's Lode.—The lode in this end is 3 ft. wide, and is not productive.

The 30 North, on Baker's Lode.—The size of the lode not known, carrying 2 feet of east, and 1 foot of west, which contains green carbonate of copper, and is just exactly the same sort of lode as it was in the same level over the best ore ground. When the 40 is communicated with Goad's and Stephens's winzes, we shall be in a position to stop away the course of ore, but we have yet to prove if it will hold down to the 40. The prospects are, however, decidedly good, as we find the lode continues its size and regularly. I am most anxious to see the ore in the 40.

Wheal Rothschild, May 13.—The two men in Kavanagh's winze have sunk, in the past month, 9 feet; the lode is rather hard, and there is an imperfect ventilation—we have, therefore, suspended it for the present. The shaft in Wheal Rothschild is 3 fathoms deep—the men, in the last month, have been employed principally putting in timber to secure the upper part of it. In No. 1507 the shaft is 6 fathoms deep, all of which must be secured by timber, but the strata in the bottom, I expect, will be sufficiently firm to stand without requiring timber. Specimens from the large lode in this section, and of the strata on each side of it, are packed in boxes, and will be forwarded to the office in town by the first day. As we have done no work on the lode in 1507 in the last month, I have no observations to make about it in this report.

Montacute, June 23.—In the 11 fathom level north, the lode is 2 feet wide, and will produce 10. worth of ore per fathom, and promising to improve. In the place where we intend to sink the winze, on Baker's lode, the lode is not productive; but being in white clay slate, and showing good gossan, we think it probable that some tribute ground may be laid open there. In the adit we are opening ground in the neighbourhood of the cross-course, with a view of pursuing a lode discovered in June month, and from which we raised some good stones of copper ore, and which is disordered by a surface labour at 25s. per week, and by removing the smith, paid 35s. per week, to Tungkillio, whose duties will now be performed by the carpenter and dresser, for an addition of 5s. each per week to their former pay.

On the 28th October, per overland mail, the directors received the cheering information that there was lying at Port Adelaide 137 tons of copper ore, the produce of the company's mines, for which freight had been engaged, per *Brunker Moor*, to sail about the 2d week in August, and which would probably arrive in January, 1849. The ore is reported to be of a very high per centage; and from the late improvement in the metal market a favourable price is expected: 115 tons of this ore is the produce of Baker's lode, at Tungkillio.

The Montacute Mine some reduction has been made, Capt. Phillips's mode of operation being to confine the miners to those points the most likely to prove productive. The committee, in a letter, dated May 16, thus speaks of this property:—"The Montacute is showing most extraordinary delusions, if those lodes do not, in deeper working, show great bulks of copper."

The board look forward most anxiously to the large gossan lode at Wheal Rothschild proving, at a deeper level, rich and productive. It is at present 9 fathoms from the surface, from 15 feet to 20 feet wide, 1-15th containing cobalt, samples of which have just been received by the *David Malcolm*, and are in the hands of an eminent practical geologist and chemist, for assay and analysis.

The proper steps are also being taken to introduce the Tungkillio emery fairly before the consumer; and your directors finding that the quality is well appreciated, anticipate that, by their next meeting, they will be enabled to report that the discoveries of cobalt and emery are likely to prove valuable acquisitions to the company.

The stream of emigration which has now so vigorously set in towards our Australian possessions, cannot fail greatly to enhance the value of the company's large tract of freehold land. The comprehensive system of mining adopted by Captain Phillips, in fully laying open a large quantity of ground previously to commencing stoping has necessarily involved a larger outlay than might have originally been expected previously to any return being made. The result of this mode of working will, however, soon be sensibly felt, by the comparatively cheap rate at which the ore will eventually be raised, and the steady supply which will be maintained by such a system of operation.

Mr. F. WILSON moved that the report be received and adopted.

Mr. G. RICH seconded the proposition.

Mr. LINDO, before the report should be put to the vote, wished to ask a few questions. He should like to know the amount of the call the directors intended to make?—The CHAIRMAN: We have made a call of 10s. per share, and it is payable on or before the 10th January next.

Mr. LINDO said, it was currently reported in the City that a call of 20s. per share was intended to have been made in the first instance, but that it was afterwards reduced to 10s. for stock-jobbing purposes; whilst it was alleged, also, that the company would not be able to go on with a 10s. call.

The CHAIRMAN explained that the reason why only 10s. has been asked is, that the directors have hopes that that sum will be sufficient for all purposes, and do not deem it right, therefore, to demand double that amount. He had no hesitation, however, in saying that not a farthing more than the 20s. would be necessary. He was sorry to hear the remarks that had been made with respect to stock-jobbing. All he could say was, he had never purchased or sold a share himself, nor did he intend to do so, and he regretted that it should be thought by any one that advantage would be taken of private information to serve sinister ends. As to any rumours that had been circulated in the City upon these matters, they must all be aware that it was utterly impossible to control them.

Mr. JACOB MONTEFIORE said, that his brother had the greatest confidence in the mine, and had paid up his calls in full. (Hear, hear.) He also asked for information relative to the loading of vessels with the produce of other mines, which occasioned a loss to the company.

Mr. H. DE CASTRO then went into some explanations, from which it appeared that the number of shares originally issued was 19,000, upon which a deposit of 88,000. was paid. Since then there had been a call of 10s. per share, giving them 95,000., making a total of 47,500. Of that sum about 25,000. had been expended in land, 4600. in preliminary expenses, about 4000. had been lost by the freight of vessels with copper, and the balance, with the exception of what remained in hand (about 1600.) had been expended on the works abroad. The balance, with a further call of 10s. per share, it was hoped would put them in such a position that, upon the arrival of the ores preparing for shipment, they would not require any further call, at all events not more than

10s. With regard to the loss sustained by the purchase of copper as freight, it had been so bought to save a loss by demurrage, and, had it not been for the breaking out of the French revolution, which caused a great decline in the price of copper, would have turned out a profitable speculation. However, as had been explained at the last meeting, instructions had been given which would prevent a recurrence of such a circumstance.

After a few further observations from one or two proprietors, Mr. MASTERMAN said, the directors had laid the affairs of the company so fully before the proprietors in order to give every explanation in their power. The directors only called for 10s. per share at a time, because they felt they would have been open to censure if they had made too heavy a call at one time. Mr. Penny, whom they had been in the habit of seeing at their meetings, and had been highly prejudiced against the mines, had received a letter from his brother relative to them, which he should like to have read.

Mr. JOSEPH read the letter, which gave a very flattering account of his inspection of the mines, and their prospects.

Professor ANSTED and Dr. WOOTTON severally passed high opinions upon the promising character of the mines, as indicated by Captain Phillips's reports. The Tungkil mine would indisputably turn out to be of very great value, and it appeared the indications presented by the other mines were equally good.

Mr. ANDERSON was glad to hear the very favourable testimony which had been added that day as to the growing value of their property. He wished the directors to take it into their serious consideration, whether they could not devise measures for encouraging honest and industrious emigrants from this country to locate on the land belonging to this company, instead of allowing it to continue to lie waste and unprofitable. If some such steps as he had hinted at were taken, they might greatly benefit their own property, whilst they would be relieving the labouring classes of this country.

The CHAIRMAN said, that Major Campbell, who had been recently sent out to the colony by the company, had received special instructions to make a complete survey of all the land, and send home his report, containing his opinion as to what he considered the best and most profitable occupancy of it. The major's report had not yet, of course, been received; and, until it arrived, the directors could not move in the matter suggested by Mr. Anderson.

Thanks were then unanimously voted, upon the motion of Mr. F. WILSON, seconded by Mr. LINDO, to the chairman and directors, and the meeting separated.

BEDFORD UNITED MINING COMPANY.

A general meeting of shareholders was held, on Thursday last, at the offices of the company, Threadneedle-street.—JOHN BROWN, Esq., in the chair.

The minutes of the last meeting having been confirmed, the accounts for the past year were presented, showing a balance of 1757l. 14s. 8d. in favour of the company, when a dividend of 5s. per share was declared, payable on and after Friday, the 22d inst.

The following report, from the manager, was then read to the meeting:—
December 12.—In compliance with your instructions, I beg to hand you the following, as a report on these mines for the past year. Since the general meeting, held on the 19th December last, the shaft has been sunk 19 fms. 5 ft. 6 in., at an average cost of 16l. 18s. 6d. per fathom; the several winzes and rises have been sunk and risen 30 fms. 4 ft., at an average cost of 7l. 19s. per fathom; and the levels have been extended 187 fms. at an average cost of 7l. 17s. per fathom.—The total amount paid for work being 2160l. During the same period 1339 tons 5 cwt. of ore have been raised, of this quantity 843 tons 6 cwt. were raised on tribute, at a cost of 1757l. 14s. 8d., and 496 tons were the produce of stopes, ends, and winzes—the amount realised for the ore being 5578l. 6s. 6d., including carriage paid by the company. Having given the above summary statement of the past operations, I will next state in detail the present workings, and remark thereon as I proceed. The shaft is down about 12 fms. below the bottom of the 90 fm. level; it will be continued until the end of this month, by which time it may be expected to be down 134 fms.—the men will then be set to drive south to intersect the lode; I may here observe that the shaft has been divided and cased down, a plunger lift fixed, and in every respect made sufficient and complete for the 47 to the 90 fm. level. The 90 fm. level has been holed from the pump-wind to the shaft; it has also been extended 33 fms. east of the pump-wind. A tram-road has been laid down from the shaft to nearly the present end, which is about 30 fms. east of the shaft; for about 25 fms. from the shaft the lode is small and poor; for 20 fms. it is worth 8s. per fm., for 17 fms. it is worth 7s. per fm., for 6 fms. it will yield a little ore, and for about 14 fms. it is worth 20s. per fm. The remainder of the level has been driven by the side of the lode, the capels having become large and very hard. It is highly gratifying to notice the long run of ore ground in this level, and to compare its extent with the same in the 8 fm. level, as also to notice that it is better and somewhat longer in the bottom than in the back, from which it may fairly be inferred that it will continue to improve and lengthen in depth.

And here I would remark, that no portion of the lode in the bottom of the level has been stopped away. There is a considerable quantity of good ore ground still standing in the back, both east and west of the slide, which will set at a moderate tribute; I therefore, entertain great hopes that we shall be able to keep up the present workings until the lode shall be cut and drained in the 103 fm. level, without having recourse to stopping the lode in the bottom of the 90. I have been particular in describing the lode in this level, because it forms the main feature in the future prospects of the mine. The 80 fm. level has been driven 41 fms. 3 ft. 5 in., principally on the course of the lode, which has laid open good tribute ground, particularly for about 10 fms. in length; the eastern part of this shoot of ore, being about 4 fms. from the present end, we are now driving by the side of the lode, the capels being very strong and hard, but they appear to be gradually wearing out. We attempted to sink a winze in the last shoot of ore, but were prevented continuing it by an influx of water; we expect, however, to resume it very shortly, having recently cut through the lode in the 90, where it is letting down a good deal of water. The 70 fm. level has been driven east 17 fms., principally by the side of the lode; it has occasionally been cut into, and, on the last occasion, it was found to be about 24 ft. wide, and more kindly and promising than for some fathoms behind, being worth about 14 tons of ore per fm.; this level was suspended for a short time (three months), but has been resumed, partly because there was a fair prospect of discovery, and partly in order to facilitate the ventilation of the lower levels. In the tribute department we have 12 pitches, which are worked by 40 men, at an average tribute of 10s. 10d. in 11. They will, in all probability, continue to yield a considerable quantity of ore, and to work at a moderate tribute, and leave a good profit to the adventurers. All operations on the chimney rock, or south lode, and Tavistock lode were suspended in June last. I was induced to recommend this, in order to concentrate the workings and reduce the cost, so as to render it practicable to decrease the samplings as much as possible, until the standard should improve. Neither of these lodes, however, should be lost sight of, as they are well worthy of the fullest development, whenever circumstances will permit.

I next proceed to notice the surface operations. Much inconvenience having been experienced, and loss occasioned by drawing from so great a depth by horses, it was determined to have machine-power for the purpose; and after close investigation into the merits of water and steam-power, it was decided that steam-power, under all the circumstances, would be preferable, both as regarded first cost, and permanent utility and economy. An 18 inch cylinder engine has, therefore, been purchased, and is now in course of erection. The cost, including repairs, alteration of boilers, the necessary buildings, and every contingency, it is calculated will be 400l. I have no doubt that the whole will be completed for this amount, and by the middle of January, when the whim horses will be sold, and a very considerable item in the monthly cost greatly reduced. I should also state, that a crusher will be attached to the engine, by which a considerable saving in the dressing cost will be effected, and the ores be better dressed. A new smith's shop, and a new carpenter's shop, have been erected, and a spacious tram and coal yard enclosed behind it; the former smith's shop was more than a quarter of a mile from the shaft, so that the men lost much time and labour in carrying their tools so far, besides being exposed to the severity of the weather in immediately after ascending the shaft. The cost of these buildings was about 100l., which has been charged and paid.

I will now make a few remarks on the future prospects of these mines. The main feature, as I have before observed, in the productiveness of the Marquis lode in the 90 fm. level, which is the deepest yet driven. It would be highly satisfactory, could the particulars be arrived at with any degree of certainty and correctness, to show the difference in the quantity and quality of the ore raised in and from the back of this level and the 80 and 70 fm. levels, at and near the slide. It is, however, most gratifying to observe, that the richest shoot of ore, which is only 4 fms. in length, in the 80 fm. level, is 17 fms. in length in the 90, and that the lode, both east and west of it, is to a still greater extent more continuing and productive, as may be clearly shown by the quantity of ore raised east and west of the pump-wind, and home to the slide, being 284 tons, which realised nearly 13l. per ton, and 503 tons, which sold for 7l. 15s. 6d. per ton. These facts speak more plainly, and must be more convincing than any representations I can make, and I trust will be held sufficient to warrant the most sanguine expectations that can be entertained of the continuous and increasing prosperity of these mines, and that the shareholders will receive an ample return for the capital invested. In conclusion, I would beg leave to state, that Capt. Phillips and Mr. Harcourt have rendered me very efficient aid and assistance, and have, at all times, most cordially co-operated with me in carrying out my views, and such alterations as it was deemed requisite to make.

Abstract of the Bedford United Mines Account.

EXPENDITURE.	
Cost-sheet from Oct., 1847, to Oct., 1848, including secretary's salary, rent, stationery, &c., to 30th Sept.	2638 16 11
London management, to 31st Dec., 1847	40 10
Duke of Bedford for dues, from July, 1847, to June, 1848	679 2 6
Old claims in cost-sheets, 1847	254 7 1
Gratuity to Capt. Ellery, in consequence of ill health	25 4 0
Purchase of 30 shares	88 15 0
Dividend of 5s. on 2820 shares, paid since 31st March last	705 0 0
Deposit at London Joint-Stock Bank	1000 0 0
Balance at ditto ditto	690 3 1
Total	£10,021 14 5

RECEIPTS.	
Balance at London Joint-Stock Bank	£1286 7 7
Sale of copper and tin ore, from Nov., 1847, to Sep., 1848	8649 1 10
Interest received from London Joint-Stock Bank on deposit account, and on minimum balance, to 30th June last	9 12 10
Received from sundries on account of debts due by them	76 12 2
Total	£10,021 14 5

LIABILITIES.	
Amount of unclaimed dividends	£ 298 0 0
Salary, rent, &c., to 31st Dec.	20 0 0
Probable cost-sheet for November	450 0 0
Steam-engine (due December and January)	180 0 0
Dues from 1st July to 31st November	169 16 9
Estimated expense for putting up engine, &c.	200 0 0
Balance	1757 14 8
Total	£10,021 14 5

ASSETS.	
Balance at bankers	£130 8 1
On bill (October)	518 2 3
Probable proceeds on 30 shares purchased	150 0 0
Carriage of ore	97 19 8
On bill (November)	490 7 8
Due from Gunter Lake Company	227 18 6
Total	£10,021 14 5

The CHAIRMAN (who had recently visited the mines) entered into a satisfactory statement of the operations and present gratifying prospects; at the same time observing, that the committee of management would not be so ready in sanctioning a dividend but for the general improvement that had taken place, and probability of much greater returns. He also read, from private letters, opinions fully corroborative of the manager's report, on whom he passed some high encomiums for the perseverance, zeal, and ability, displayed, which were responded to by all present, and to whom a vote of thanks was passed. Other resolutions were adopted, and the meeting separated, highly gratified.

GADAIR MINING COMPANY.

An adjourned meeting of the adventurers in this mine was held at the Queen's Arms Hotel, Cheapside, on Thursday, the 14th inst.

G. W. BLANCH, Esq., in the chair.
The CHAIRMAN briefly stated the objects of the meeting, and called upon the hon. purser to state whether he had received any communication which he had to submit to the shareholders on the subject of the lease, and the non-observance of any clauses therein.—The hon. PURSER, in reply, stated, that a letter had been addressed by the solicitor of the company to the lord of the mine, who had, through his agent, replied thereto.—Mr. Moss, as solicitor, stated, that he had communicated with the lord of the mine, through his agent, and was glad to have the opportunity of laying before the meeting a letter, which he had received in reply, wherein it was stated, that the lord waived the right of forfeiture, which he had claimed, for his part that the working of the mine would be carried on with activity.—Mr. MILLER, as the representative of Mr. MacKillop, the holder of 700 shares, was anxious to know what were the projected measures? Mr. MacKillop would, he felt assured, readily fall into the views of other adventurers—feeling satisfied that one object alone influenced the parties, of whose honour and intentions he could not entertain a doubt.

A conversation at some length ensued, in which Messrs. Truscott, Williams, and Moss took part, which, however, was of no interest, beyond arriving at the conclusion, that it was highly desirable all debts owing upon the mine should be discharged; and that a committee be appointed, who should report at a meeting, to be held on an early day, as to the best course to be adopted for actively prosecuting the working of the mine; and accordingly Messrs. Blanch, J. Truscott, Miller, Molyneux, D. L. Williams, N. Truscott, and Henry English were nominated. The usual vote of thanks having been given to the chairman, the meeting separated.

LAMHEROEE WHEEL MARIA MINING COMPANY.

A general meeting of adventurers was held at the offices, King-street, Cheapside, on Thursday, the 14th inst. PETER DAVEY, Esq., in the chair.

The notice convening the meeting having been read, the SECRETARY read the balance-sheet, from which it appeared that the calls received, including interest and law charges, amounted, after deducting 116l. 10s. for forfeited shares, to 13,866l. 4s. 2d., and placing to the debit side unpaid cost 177l. 5s. 3d., left 13,688l. 9s. 5d. On the credit side, the cost, up to the 12th Sept., as per amount rendered, was 12,866l. 13s. 1d.—the additional cost on the mine, for the months of Aug., Sept., and Oct., being 550l. 8s. 5d.; arrears of call, 186l. 10s.; and cash at bankers, 27l. 11s. 10d.—13,979l. 9s. 5d. The assets appeared to be 529l. 17s. 3d., and the liabilities 171l. 5s. 3d., leaving a balance in favour of the mine of 358l. 12s.—The following report was then submitted:—

Dec. 9.—At Davey's shaft we have cut the pit in the 40 fm. level, and extended from the shaft 2 fms. towards the lode. The nature of the ground is the same as it has hitherto been, favourable for driving, at about 6l. per fathom. At the engine-shaft they have sunk to within 3 feet of the 50 fm. level. I am sorry to say, we met with an accident here, which will hinder us a fortnight. In blasting some of the rocks, we shattered the windrose so much, that we are obliged to draw the lift and fix a new one. We shall also take this opportunity of fixing the new nine-inch plunger, ordered some time since, which will be on the mine on Monday. This alteration must have been done shortly, even if this accident had not occurred—we may, therefore, rather say that the accident has only hastened the delay, instead of creating it; and, by taking the sinking lift from Davey's, the expense of new ones immediately is avoided. I congratulate the shareholders upon their resolution to sink this shaft to intersect the lode; at the same time, I would recommend that, as the lode has not been seen below the surface, or shod pit, four men be employed, in the 50, to drive and intersect it. Assuming its underlie to be 3 ft. in a fathom, we shall have about 8 fathoms to drive, at 5l. per fathom; but even if it should underlie less, the cross-cut will be longer; but it will be considered by all miners a rather favourable circumstance than otherwise. At all events, I think we might fairly expect to see something of the character of the lode at that depth, and it will also facilitate the future operations for ventilating a deeper level.—J. TABB.

It is unnecessary to enter into the various points raised at the meeting, it being concluded by a resolution being passed, to the effect that it was most desirable the two shafts should be sunk to fathoms deeper before cross-cutting to take the lode, which, although more time may be consumed in arriving at the level, will be economy in cost, and much more conclusive in the results. The monthly cost for November was submitted to the meeting, and Captain Tabb explained the several items to the satisfaction of the meeting. It was in the end resolved, that the shafts should be put down; that the call of 10s. per share, due on the 10th January, should be paid up, which would give 900l. as a capital to meet the current costs; and that the proposed further call of 1l. per share should be adjourned until the next meeting of adventurers. The meeting was adjourned until the 28th inst.

WHEEL BENNY MINING COMPANY.

A meeting of adventurers was convened for Thursday, the 14th inst., but, in consequence of there being but a slight attendance, the meeting was adjourned until the 28th inst. The following report was submitted to the meeting:—

Callington Mines, October 18.—According to your request, I have carefully examined the Wheel Benny Mine, which is situated on the banks of the River Tamar. The engine-shaft is sunk to the 30 fm. level; in this level they are driving north, to cut a lode called Ford lode; this cross-cut is now driven about 3 fms., and they have 5 fms. more to drive before they will reach the lode, considering the underlie to be 3 ft. in a fathom. In the 20 fm. level the lode is about 4 ft. wide, its character is hard capel, with muddle, and spots of yellow copper ore; they have done nothing more on this lode than cut through it, being thought worthless at this point. In the 7 fm. level the ancient have driven east, and west altogether about 30 fms. on the course of the lode, varying in size from 1 to 2 1/2 ft., its composition is just the same as in the 20 fm. level (viz.: capel, with muddle, and spots of copper); this lode is not, in my opinion, likely to contain much copper shallow, and if it does in depth, it will be of no value to the Benny shareholders, as the underlie is north, and the back of the lode so near the margin of the River Tamar—it will at no great depth get into the Lamheroee sett. I recommend no further outlay on this lode than seeing it cut in the 30 fm. level, and if not richer at this point, I should abandon my share, if I had any. Spots of yellow copper I send you by the bearer in order that you may judge for yourself of its real character. There is another lode about 100 fms. to the south, under-lying north, called Benny lode; its bearing is about 20° to the south of east, and north of west; it is a large capel lode, just the same character as the last mentioned (viz.: Ford). A former party took up an adit, and wrought on the same many fathoms east, without making any returns. Capt. Tabb proposed to me, for the Benny party, to drive a cross-cut from Davey's shaft in Lamheroee, in the 40 fm. level, to take this lode, which would cost, say 6l. per fathom, for 30 fms. driving, to reach the lode, then the Lamheroee party would draw water at night from the level of the lode, and the Benny party would dry to that depth, which would give a great height of backs going east in the Benny sett, say 80 fms.—considering the rise of the hill, this lode runs a great length in the Benny sett. I consider this might be called a speculation, but how far it might answer its design end I am not prepared to say, but will leave it to your own consideration. There is also a cross-cut being driven south, in order to take a lode that is much further south than the before-mentioned ones; this lode is large on the back, carrying gossan, with capel, and muddle—I did not discover any muddle in it; this cross-cut is driven from the under-lying north, and is a very interesting one; it has nearly reached the lode, which will give, say from 40 to 60 fms. of backs—I call this a fair speculation.—W. BARRETT.

BIRCH TORR AND VITIFER.—A numerously attended meeting of shareholders was held at the secretary's office, on the 7th inst.—Mr. TRICKETT in the chair.—A statement of assets and liabilities having been submitted to the meeting, a lengthy report was read, then introduced.—"In consequence of the advance in the price of tin, I am induced to lay before you a full report of the present position of these mines, with a recommendation for the prosecution of certain work, which I believe would be highly advantageous to the company." The report was received; the work recommended was ordered to be immediately commenced; and a call of 1l. per share made. Several shares were relinquished, and the necessary documents ordered to be entered in the cost-book, and the meeting separated.

WHEEL ASH.—At a meeting of adventurers, held at the purser's office, on the 7th inst.—G. PRIDHAM, Esq., in the chair,—a statement of accounts was presented, showing balance due to purser, after payment of all liabilities (no credit being given for any unrealised assets), of 370l. 2s. 8d.—The accounts were passed, and a call of 15s. per share made.—Mr. John Bayly was authorised to enter into such arrangements with the Wheel Ardnamurchan adventurers, for the mutual advantage of these mines, as he might deem desirable, subject to the ratification of a meeting of the shareholders.—The following report, from Capt. R. Edwards, was read to the meeting:—"Since the last meeting, 20 fms. have been driven on the course of the lode; for the first few fathoms from the shaft, the lode was sparry; it then struck into a large course of gossan, muddle, and peach, varying from 3 1/2 to 5 ft. wide; the eastern end is in a very promising shoot of ground; the shaft has been sunk 11 fms., and is now 15 fms. under the adit; it has been, from 2 fms. above the adit, a regular course of muddle and peach, with occasional spar, and a few spots of copper ore; a part of the leader of the lode only has been taken down, about 5 ft. wide; this is now almost solid muddle; muddle still stands to the south of the shaft; this lode must, in my judgment, produce ore at no great depth under our present level; we are now cutting a plat, preparatory to sinking another lift; in doing this, we shall cut through and see the south part of the lode, which has not been seen under the adit."

WHEEL CURTIS COPPER MINING COMPANY.—An extraordinary general meeting was appointed to be held at the offices of the company, Basinghall-chambers, yesterday, for the purpose of taking into consideration an offer that had been made for the sets, plant, and machinery; but, after waiting a considerable time, there not being sufficient shareholders present to legally constitute a meeting, no business could be entered upon, and the meeting separated.

Dispatches arrived, yesterday afternoon, from the Allen Copper-Works. The estimates and report for October had been sent by the Countess of Liverpool, which sailed on the 2d Nov., with 65 tons of copper. This vessel is expected daily to arrive in the Thames. By the end of November, in consequence of the favourable progress made in the smelting-house, a further parcel of about 50 tons of copper was expected to be ready.

WHEEL CONCORD.—We are informed that the long-pending adjustment of the affairs of this mine will be effected by a reference to one of the Masters in Chancery, in pursuance of the late Act of Parliament, for winding up the affairs of public companies. It seems to us that the shareholders of this mine, the affairs of which must lie in a small compass, would act wisely to save the heavy expense of such a process, by some equitable arrangement amongst themselves.

CAMERON'S STEAM COAL COMPANY.

A special, or adjourned general, meeting of shareholders in this company was held on Friday, the 15th inst., at the offices, 2, Moorgate-street, and adjourned from thence to more convenient apartments, in consequence of the number of proprietors present, N. P. CAMERON, Esq., in the chair.

The notice of the meeting and adjournment having been read, the CHAIRMAN wished to put the question, whether the report of the committee was ready? Mr. BURLEIGH, in rising to offer an observation on the remarks of the chairman, begged to state, that the report had been prepared, and which he then held in his hand; it was true that it had not been signed by the five members of which the committee was constituted—at the same time, he might observe, four members had signed it, which he considered sufficient, and should propose that it be read.

The CHAIRMAN expressed his opinion, that in the performance of his duty as chairman of the company, however unpleasant it might be for him to exercise the duties so imposed, he must necessarily oppose the reading, or acceptance, on the part of the meeting of the report. He would call upon the secretary to read the resolution, appointing the committee, and it would be seen that it required the assent, or signature, of the whole body, without which no report could be received. He found that there was the absence of the signature of one of the parties so appointed, and, after discussing the matter with the legal advisers of the company, he must decline receiving it.

It appeared, from a lengthened and angry discussion which ensued, that Mr. Danford, who was appointed as a member of the committee, had executed a transfer of his shares, which was not admitted, in consequence, very properly, of his call or calls not being paid thereon, and hence his name was not attached to the report.

Mr. SMALLBONE wished to know why the transfer, which had been sent in by Mr. Danford, had not been allowed.—In reply to which it was stated, that the call not having been paid, in accordance with the rules or regulations of the company, the shares could not be transferred, or the party released from the call made.

Mr. BURLEIGH, having placed in the hands of the chairman the report, prepared and signed by the committee appointed in July last, and which the chairman, after consulting the legal advisers of the company, refused to receive, inasmuch that it was signed only by four individuals, while the committee was formed of five, requested the return of the report, and, hence his name was not attached to the report. Mr. BURLEIGH further observed that, at the last meeting of the shareholders, it was understood that the committee appointed to investigate the affairs of the company, should report at the meeting held that day. It appeared to him, that whatever fatality might have attended the committee so appointed, even if they were reduced to one member, yet the report of "the committee" would be valid.

Mr. CHALMERS, who, we believe, is connected with the House of Commons, in an official capacity, and hence we would assume competent to form, as also to give, an opinion, observed that the remarks made by the chairman, as to the report of the committee not being perfect, simply because it was signed only by four out of five members of the committee, was absurd; it was ever understood, that with the appointment of five or more members of a committee, a quorum was formed—a majority had power; and if four members out of five resolved upon certain measures, the fifth party not protesting, then that the report, or opinion, of the remaining four was effective. In the case of the Brighton Railway, a meeting was held, with reference to the employment of steam-boats; but such was determined by the vote of three to two, which he adduced as a precedent.

To follow the observations of those who offered their opinions on the several points advanced, would be to occupy space in the Journal, which we not only think, but feel, is required, and may be applied to a better purpose than merely reporting the harsh expressions conveyed from one to the other; it will, therefore, be our object to avoid reference to all the personalities indulged in, and to give in brief the results of the meeting.

A resolution was proposed to dissolve the committee, which was determined by the vote of 45 against such measure, and some six or seven in favour; whereupon Mr. Howden (the secretary), at the desire of the chairman, proceeded to take the number of votes, such was determined by the vote of three to two, which he adduced as a precedent. To follow the observations of those who offered their opinions on the several points advanced, would be to occupy space in the Journal, which we not only think, but feel, is required, and may be applied to a better purpose than merely reporting the harsh expressions conveyed from one to the other; it will, therefore, be our object to avoid reference to all the personalities indulged in, and to give in brief the results of the meeting.

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Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 191	Belgian, 4 per Cent., —
3 per Cent. Reduced Ann., 87 7	Dutch, 2 1/2 per Cent., 48 1/2
3 per Cent. Consols Ann., 88 1/2	Brazilian, 5 per Cent., 75
3 1/2 per Cent. Ann., 87 1/2	Mexican, 5 per Cent., 22 1/2
Long Annuities, 8 1/2	Russian, 5 per Cent., 102 1/2
India Stock, 10 1/2 per Cent., —	Spanish, 5 per Cent., 12 1/2
3 per Cent. Consols for Act., 87 1/2	Ditto 3 per Cent., 25 1/2
Exchange Bills, 1000l. 2d. 37 40 37 pm.	

MINES.—The transactions in the mining share market have been rather limited during the past week, which arises more from the scarcity of the shares in request than the demand of business; still we do not calculate upon any thing considerable being done until the commencement of the new year. The market appears firm at former quotations, and buyers continue to inquire for leading mines. The probability of an improved and more permanent state of things is to us quite apparent, if we may calculate on the advantages arising from the demand for metal, the general improvement of our mines, and the facilities afforded by the increased number of buyers of the raw material. We have referred to the establishment of some new companies for the smelting of tin and lead ores.

We also learn, that a steady and progressive movement is making by the British Smelting Association towards completion. The promoters are, no doubt, acting prudently, by not bringing the undertaking before the public until the beginning of the new year. It has been a matter of surprise to us, that British capitalists should have been so tardy in not concentrating a portion of their unemployed wealth in the establishment of smelting companies; and now that the means are becoming more abundant, we trust the period is approaching when we shall see the mining interests of Britain flourishing under a better and less capricious market for this important section of our national interest.

Inquiries have been made for South Wheal Bassett, Trelawny, Trehaue, West Caradon, Condurrow, Carr Brea, and, indeed, for nearly all the leading mines. Business has been done in shares in the following mines:—East Wheal Rose, Trelawny, Trehaue, Herodfoot, Mary Ann, East Crowndale, East Tamar, Bedford United, East Alveny, Kingsett and Bedford, Pennant and Craigwen, Stray Park, Tamar, Tincroft, West Caradon, &c.

At the Bedford United meeting, on Thursday, the accounts presented showed a balance of 1757l. in favour of the company, when a dividend of 5s. per share was declared—being the second during the year. We find the profit on the workings, from the 1st of January to 30th Oct., about 830l., notwithstanding the depressed standard, and performing necessary erections, which will not be again required. The balance in hand, after payment of dividend, amounts to 757l., which is carried to the credit of the next account. The manager's report was read, with evident marks of satisfaction, for the able and effective manner he has carried on the underground operations, as well as the general duties of the mine.

At the Australian Mining Company's meeting, on Monday last, a call of 10s. per share was deemed necessary for the present. In taking a brief summary of the captain's report, we find that the lode at Tungkill is productive in two winzes, sunk under the 30 fathom level—Goad's winze has a rich course of ore, worth 120l. per fm., and Stephens's is estimated worth 20l. per fm.; but at present the 40 fm. level is unproductive, although the general appearance of the lode here encourages the hope of an improvement; the winzes are sunk to within 4 and 5 fms., respectively, of the back of the 40. In the 11 fm. level, at Montacute Mine, we learn, the lode is 2 ft. wide, worth 10l. per fm., with a prospect of an improvement. Advances have been received of the shipment of 137 tons of copper ore of high per centage, which may be expected here in January. It has also been stated that between 2000 and 3000 tons of rich ore are expected to be raised by next month.

At the adjourned meeting of Cameron's Steam Coal Company, yesterday, held for the purpose of receiving the report of the committee, it was refused by the directors. The chairman, not meeting the approbation of the shareholders, was voted out, and another appointed; the directors retired amidst the most marked feelings of disapprobation.

The recent arrivals from America furnish us, with an air of authenticity, the continued rumours of the most extraordinary resources of the gold region of Upper California, &c., and the previous reports are confirmed; that from \$60,000 to \$100,000 worth are daily extracted. We believe that these statements are much exaggerated—first, from the now known tendency of all districts to amplify new discoveries of the precious metals, as was repeatedly done in the States of Virginia, Carolina, and Georgia, whose splendid discoveries and products are now totally forgotten—the land jobbers and clever speculators having made their hay "while the sun shone." It is too much to suppose this in a country discovered by the Spaniards, a class very different from the present race, in enterprise, talent, and activity, with the unlimited command of the cheap labour of the Indians—the *mita*, or forced conscription, working for a certain time, and the survivors replaced by other Indians. In this manner much of the country was examined by pits sunk on the banks of the streams, until they reached the diluvial deposits of gravel, which frequently, or mostly, contain gold; if found rich enough were worked, otherwise abandoned for other places more promising. We, therefore, think it little likely strangers should at once enter in a country, and suddenly make discoveries to an extent beyond precedent—as British capital, to the amount of many millions, since 1825, has been spent in mining for the precious metals of the New Continent, from the supposition that the natives were incapable of working these rich mines to an amount of profit that British capital and industry could do.

The experiment was made on a princely scale in many different sections of the country, and with what results the shareholders can best tell; and after the lapse of 22 years, how many of these magnificent bubbles exist? Only two or three in South America. The Mexican, Bolivar, Colombian, &c., where are they? We would, therefore, earnestly entreat those who have the command of capital to pause, ere they apply it to foster El Dorado, or they may learn to their loss that "all is not gold that glitters," and that even gold may be bought too dear.

In foreign shares there have been several bargains in St. John del Rey, United Mexican, Imperial Brazilian, Bolanos, Copiapo, and Australian—the latter at an advance, notwithstanding the call made on Monday last, which generally has the effect of depreciating the price. In Barossa Range, there has been an active business, and at better prices.

Letters were received, yesterday, by the Alton Mining Company, advising the transmission of October mining report, accounts, &c., with 65 tons of copper, per the *Countess of Liverpool*, whose arrival is daily expected here.

HULL, THURSDAY.—We have to note a better feeling in the share market, which we hope will continue. All the elements of improvement are visible—here, check, however, by the unsettled state of foreign politics. We trust the direction affairs are taking in France will afford the appearance, at least, of stability for a time, but there is nothing to be very sanguine about, we fear.

LATEST CURRENT PRICES OF METALS.

LONDON, DECEMBER 15, 1848.

IRON—Bar a. Wales . . . ton	£ s. d.	COPPER—Ordin. sheets, lb.	£ s. d.
.. London .. . 0 6 0	0 0	Old .. . 0 0 0	0 0
Nail rod .. . 0 0 0	0 0	Yellow Metal .. . 0 0 0	0 0
Hoops .. . 0 0 0	0 0	Tin—Com. blocks .. . 0 0 0	0 0
Sheets, single .. . 0 0 0	0 0	.. bars .. . 0 0 0	0 0
Refined metal .. . 3 7 6	12 6	Refined .. . 0 0 0	0 0
Bars, Staffordshire .. . 0 0 0	0 0	Straita .. . 0 0 0	0 0
Pigs, ditto .. . 3 0 0	3 15 0	Banca, for home con. .. . 0 0 0	0 0
Welsh cold-blast .. . 3 15 0	4 5 0	ditto for export only .. . 0 0 0	0 0
Foundry pig .. . 3 15 0	4 5 0	TIN-PLATES—Ch., 10 1/2, box 1	9 1 0
Scottish pig .. . 3 15 0	4 5 0	.. IX .. . 0 0 0	0 0
Do. toughened, Wales .. . 3 15 0	4 5 0	Coke, 10 .. . 1 6 0	1 6 0
Strling's Pat., Glasgow .. . 3 15 0	4 5 0	LEAD—Sheet .. . 10 17 0	17 0
Rails, average .. . 5 0 0	5 10 0	Pig, English .. . 16 0 0	16 0
Chairs .. . 0 0 0	0 4 0	.. Spanish .. . 14 10 0	15 0
Russian, CCND .. . 0 0 0	0 0 0	Red .. . 0 0 0	0 0
Archangel 12 10 0	13 0 0	White ditto .. . 0 0 0	0 0
Swedish Steel, fag. 2 .. . 0 0 0	0 15 0	Shot (Patent) .. . 0 0 0	0 0
.. kegge 13 10 0	14 0 0	SPELTER—Cake .. . 15 15 0	15 0
COPPER—11 1/2 .. . 0 0 0	0 75 0	For arrival .. . 15 15 0	15 0
Tough cake .. . 0 0 0	0 75 0	ZINC—(Sheet) m. export .. . 0 0 0	0 0
Chili .. . 0 0 0	0 70 0	QUICKSILVER .. . 0 0 0	0 0

REMARKS.—The rumoured low sales of Welsh bar-iron within the last few weeks have caused some foreign orders to be sent here at limits which have been refused, makers declining to sell except at our quotations. During the past week there has been considerable enquiry for Scotch pig-iron, but as the makers and holders refuse to sell, except at an advance, but little business has been done. We quote the price 41s. 6d., cash, for 3-5ths No. 1, and 2-5ths No. 3. In other metals no alteration.

GLASGOW, PIG-IRON TRADE, Dec. 14.—There is a still further improvement in our pig-iron market this week, and a fair business has been done at a slight advance in price. Buyers to day at 41s. 6d., sellers at 42s., cash, to a moderate extent.

Note of the exports of pig-iron in November, 1848, as compared with 1847:—
From Bromfield .. . 16,730
From Port Dundas and Kilmillloch .. . 16,111
Totals .. . 32,841
Decrease in 1848, 17,637 tons.

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—
Silver coin to Belgium, 51,110 ounces; ditto to Rotterdam, 48,000; ditto to Havre, 7010.
Silver bars to Rotterdam, 50,000; ditto to Belgium, 16,800; ditto to Hamburg, 5234.
Gold coin to Havre, 750—Gold doubloons to Cadiz, 130 pieces.

PRICES OF MINING SHARES.

BRITISH MINES.				BRITISH MINES—continued.			
Shares.	Company.	Paid.	Price.	Shares.	Company.	Paid.	Price.
1000	Abergwesin	7	—	2048	Rannard Goolie Tin ..	1	10
512	Albert Consols	1	2 1/2	128	South Caradon	10	300
1000	Alfred Consols	1	5 1/2	1100	South Dolcoath	4	5
1000	Antimony & Silver-Lead ..	5	5 1/2	256	St. Friendsh. Wh. Ann ..	20	4
1024	Ashterton United Mines ..	8 1/2	10	256	South Molton	5	10
1624	Balaicadden	9	18	256	South Tolgus	10	55
128	Balnoon Consols	25	25	256	South Trelawny	28 1/2	3
10000	Banwen Iron Co.	5	6 1/2	2000	South Wales Mining Co. ..	1	2
1000	Barristown	58	14	128	South Wheal Bassett ..	110	145
4000	Bedford	24	24 1/2	124	South Wh. Frances	160	240
1244	Birch Tor Tin Mine	94	14	256	South Wh. Josiah	—	24
9000	Blancavon	50	17 1/2	1000	South Wh. Maria	24 1/2	14
100	Botalack	182	60	10000	Southern & Western, Irish ..	2	4
120	Brewer	5	7	280	Spearne Moor	30	40
10000	British Iron, New Regis. ..	10	13	256	St. Austell Consols	9	—
—	Ditto ditto, scrip	10	10	94	St. Ives Consols	—	320
128	Budnick Consols	52 1/2	35	128	St. Michael Peakival	5	10 1/2
1000	Callington	19	15	999	St. Minver Consols	1	5
1000	Camborne Consols	5	4	1000	Stray Park	43	18-19
20000	Cameron's Steam Coal	1	2	9600	Tamar Consols	3	64
256	Caradon Copper Mine	9 1/2	2	1024	Tavy Consols	4	4
256	Caradon Mines	22 1/2	10	6000	Tincroft	7	5 1/2
256	Caradon United	24	5	1000	Tin Vale	24	34
256	Caradon Wh. Hoopet	21	8	38	Tolkenbury	170	10
1000	Carn Brea	15	100	256	Tolpetherwin	34	5
3000	Cartnew Consols	11	5	256	Tregordan	2	9
112	Charlestown	220	60	256	Trehane	24	27
512	Coatlitz Hill	4	1	5000	Treigh Consols	6	1 1/2
500	Comblaw	54	3	2000	Treanance	3	—
128	Confort	45	35	96	Tresaveau	10	150
256	Condurrow	20	40	120	Trethellan	5	16
2560	Cook's Kitchen	14	2	120	Treviskey and Barrier ..	140	84
1000	Coombe Valley Quarry	54	42	256	Trevel	11	5
6500	Cornish Mining Co.	2	2 1/2	100	United Mines	300	350
20000	C. rwall New Mining	1	1	256	Wellington Mines	25	20
1000	Copper Bottom	14	6 1/2	256	West Caradon	20	110
1024	Cossue	44	20	512	West Fowey Consols	40	12
212	Cragdock Moor	23 1/2	5	256	West Providence	9	15
128	Creeg Brags	120	100	200	West Seton	40	210
500	Cubert Mine	122	—	—	West of Scotland Iron Co. ..	240	90
1000	Cwm Erwin	24	3	120	West Trethellan	5	30
300	Id. Prior & Buckfastleigh ..	8	5	256	West United Hills	3	4 1/2
7100	Derwent	84	5	512	West Wheal Frances	13	2
815	Devon & Courtenay Con.	72	5	256	West Wh. Friendship	9	8
1024	Devon Great Consols	1	220	3725	West Wheal Jewel	11	1 1/2
1000	Dhuad	2	5	256	West Wheal Tolgus	21	6
185	Dolcoath	30	15	256	West Wheal Treasury	19	10
2560	Drake Walls	5	4	1024	Whiddon Mines	48	4 1/2
10000	Durham County Coal	45	9	5200	Wicklow Copper	5	8 1/2
3000	Dwynwryn	10	12 1/2	107	Wheal Adams	79	30
512	East Alveny	54	2	1000	Wheal Agard	34	5
112	East Caradon	47	47	256	Wheal Albert	10	1
2048	East Crowndale	54	24	240	Wheal Anderson	23	20
512	East Combe Silver-Lead	64	64	128	Wheal Ann	—	50 1/2
128	East Pool	15	40	512	Wheal Anna Maria	64	8
9000	East Tamar Consols	4	3	1024	Wheal Ash	48	8
—	East Wheal Albert	1	3	120	Wheal Bal	52	20
94	East Wheal Crofty	125	250	256	Wheal Benny	14	2
1024	East Wheal Fortune	2	3	256	Wheal Bleanow	21	5
256	East Wheal Rose	50	60	256	Wheal Buckets	3	5
—	East of Scotland Iron Co.	5	10	256	Wheal Calstock	5	10
123	East Wheal Seton	14	10	1024	Wheal Coal	1	4
1280	Esgrail Lli	1	2	268	Wheal Courtenay	12	15
256	Exmoor Wh. Eliza	6	9-10	256	Wheal Fortescue	64	3
512	Fowey Consols	40	45	388	Wheal Franco	27	18
1024	Fredd Llywyd Mines	14	34	128	Wheal Harriet	45	—
6400	Gadair	2	2	100	Wheal Henry	—	31 1/2
4000	Id. Mining Co. for Irel.	14	14	1024	Wheal Lawrence	3	3
256	Gonamena	14	16	112	Wheal Margaret	79	250
128	Goonvrea	4	2	512	Wheal Mary Ann	5	14 1/2
100	Great Consols	1000	250	208	Wheal Mary Consols	60	8
1900	Great Michell Consols	14	4	—	Wheal Penhale	—	12
256	Great Resugga Moor	11	6	210	Wheal Prospect	4	7
512	Id. Wh. Lough Tor Con.	18 1/2	11	120	Wheal Reeth	41	150
1200	Grouse State Company	5	5	128	Wheal Rose	60	5
320	Gwinea Consols	7	1	59	Wheal Seton	214	720
6000	Helneston Down Con.	1	1	180	Wheal Sisters	34	5
256	Herodsfoot	18	22	512	Wheal Sophia	34	5
10000	Hibernian	124	12	128	Wheal Spearne	10	75
239	Hobbs's Hill	6	11	128	Wheal St. Ann	30	35
1000	Holmbush	22	14	550	Wheal Trescoll	4	5 1/2
1024	Kingsett and Bedford	4	14	260	Wheal Trelawny	78	65
827	Kirkcudbrightshire	84	2	256	Wh. Tremayne (St. Ervan) ..	94	24
2048	Lanherough Wh. Maria	13	2	1024	Wheal Tremayne	94	3
32	Lanarth Consols	50	60	52	Wheal Tryphena	140	265
128	Leland Consols	90	60	1000	Wheal Vincent	14	6
160	Levant	10	100	256	Wheal View (Perranz)	—	60
1000	Lewis	16	8	184	Wheal Vyvyan	—	60
1000	Llwyn Males	7	7	250	Wheal Williams	28 1/2	8
3600	Llynvi Iron	50	50	1024	William & Mary Worth	2	2 1/2
256	Lostwithiel Consols	19	14	5000	Alten Mining Company	14	1 1/2
6000	Marke Valley	10	14	18000	Asturian Mining Co.	13	2
5000	Mendip Hills	3	1	2000	Australian	3	34 1/2
128	Metha	34	140	10000	Anglo-Mexican Co.	100	—
20000	Mining Co. of Ireland	7	5	12374	Ditto Subscription	25	14
256	New East Crowndale	34	24	3000	Barossa Range	1	2
128	North Fowey Consols	37	10	3000	Bolanos	150	24
140	North Roskear	54	510	2000	Ditto Scrip	15	34
140	North Wh. Leisare	14	2	12000	Brazilian Imperial	23	74-8
262	North Wh. Leisare	14	2	10000	Cobre Copper Co.	40	13
10000	Northern Coal Co.	23	2	10000	Copiapo Mining Co.	14	24-3
128	Par Consols	10	10	10000	General Mining Ass'n.	50	10
8000	Pennant & Craigwen	2	24	—	Guadalcanal	34	5 1/2
100	Penrill	30	65	2	Kinzighal Mining Assn.	2	3
1024	Penzance Consols	16 1/2	34	20051	Mexican Company	59	—
512	Plymouth Wh. Yeoland	64	15	2000	Mexican & South Amer.	8	1
200	Polaish Consols	54	44	5000	Northern Brazilian	30	34-5 1/2
256	Powdermill & Bacheildon ..	10	10	10400	N. Brit. Australasian	1	4
10000	Rhymney Iron	50	13	7000	Red Sea Station	1	1
10000	Ditto New	7	6 1/2	11000	St. John del Rey	15	11
1000	Rosewall Hill	1	5	49174	United Mexican Co.	28 1/2	31 1/2
256	Rosewarva Mines	—	12				

NOTICES TO CORRESPONDENTS.

We must impress upon our correspondents the necessity of invariably furnishing us with their names and addresses, not that their communications should, consequently, be noticed, but as an earnest in us of their good faith.

NORTH BRITISH AUSTRALASIAN COMPANY.—An article on the affairs of this association, addressed to the proprietors, will appear in our next Journal.

BUNKAFOOD TIN MINES.—"M. D." in reply to "J. W." in last Journal, says—Shares were sold in May last at 10s. 1d. 420 shares, out of the 9048, are unappropriated; no dividend has been declared. A report of the last meeting of shareholders, held at Woolwich, on the 8th November, appeared in the *Mining Journal* of the 11th.

"A Shareholder" (Minorities).—In the *Journal* of the 4th November we published information from our correspondent at Adelaide, to the 14th July: the action brought by the Government against the Adelaide Mining Company, was then being tried; we are now advised, that, after three days' argument, the company was triumphant—thus virtually settling the royalty question.

"B. A. R."—Mr. Wilkinson's patent for "Improvements in the Construction of Coke Ovens, and in Machinery or Apparatus connected therewith," is only just sealed—the particulars will appear as soon after the specification as possible.

AMERICAN DETRACTION OF ENGLAND.—We have received a communication from Mr. J. R. Remington, dated Stafford, Dec. 11, in reply to our comments, in the *Journal* of the 2d inst., on a letter addressed by him to a gentleman in the United States. Mr. R. says—"I noticed your very harsh remarks upon a letter, said to be written by myself, in the month of August last, to a private friend, in the United States. I did write about that time, and since many circumstances detailed in that friendly missile could not have reached the public, except through that source, which was never intended for publication, nor would have been, but for the demise of the gentleman to whom it was addressed, I am convinced nearly all contained in that letter is really my own." We are glad to find the letter was never intended by the writer for the public eye; and it is a pity those into whose hands it fell should have acted so imprudently as to cause its publication. With reference to his bridge, Mr. Remington says—"You say that my bridge can only be employed in spanning brooks for foot passengers, but this is totally at variance with the fact; as is amply testified by the carriage bridge, more than 150 ft. span, across the River Trent, on the estate of Earl Talbot, in Ingestre, Staffordshire."

THE COPPER TRADE.—"A Miner" (Swansea) will find a continuation of the letters from Mr. Budd in our present *Journal*—the insertion of his communication would, therefore, be premature.

"M. S." (Wells).—The subject shall receive early attention.

WATER-WHEELS.—J. Ashby (Greenwich) will find the question of "J. W. W." answered by two correspondents, both of which he can advantageously study. We shall, however, be happy to receive a description of any improvements he may have made.

"Delta" (Paddington), on Mining and Smelting, shall appear in our next; also the letter of Mr. George Walter, on the Kamptulcon Company and Mr. Fanshawe.

"X." (Truro).—We do not know "the office of the company established to carry on the fisheries of Ireland."

LIQUID GLUE.—"M." (Dublin).—The address of Mr. Neuber, the manufacturer, is 76, Long-acre.

"A Shareholder" (Leeds).—See *Glossary of Mining and Smelting Terms*, published at our office, price 2s., where all the information is given and the terms explained.

"M. B. W." (Sheffield).—Brett and Little's Electro-Telegraphic Converter was explained in our *Journal* of 21st and 28th August, 1847—the office is in Furnival's Inn, Holborn.

"A. S." (Warrington) should apply to a broker for the information respecting the Kingstons and Bedford Silver-Lead and Copper Mines—the prospectus appeared in our advertising columns of last week.

GADIAN MINE.—Having been imperatively called upon to publish Mr. Moss's letter, alluded to in our last, in answer to that of Mr. Taunton, in the *Journal* of the 2d inst., it will be found in another column. We have now done with the matter.

RABBY O. TREASURY.—We have received a communication from the defendant, stating that this cause had been withdrawn—each party paying his own costs. We think, under the circumstances, this is the best course that could have been adopted.

The communication of Mr. R., on Sewage and Manure, is declined, with thanks.

"A Young Miner" (Buckfastleigh).—Budget's *Miner's Guide* (Longmans'), and Mitchell's *Practical Assaying* (Baillière).

"H. and B." (Exeter) shall hear in a day or two.

We are again compelled to postpone the continuation of Mr. Mitchell's paper on "The Metallurgical Treatment of Ores" also, Mr. Dunn, on "The Winning and Working of Collieries."

•• We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the *Journal*.

Now ready, price 2s.,

A Glossary of Mining and Smelting Terms,

USED IN ENGLISH AND FOREIGN MINING DISTRICTS.

Published at the office of the *Mining Journal*, 26, Fleet-street, London; and may be had of John Weale, 59, High Holborn, and of all booksellers and newsmen.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, DECEMBER 16, 1848.

The *MINING JOURNAL* is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

We beg to direct the attention of all interested to the advertisement of the meeting of the **NORTH BRITISH AUSTRALASIAN COMPANY**, to be held in Aberdeen on the 28th inst. The meeting is called by the managing cashiers, "for the purpose of electing seven directors for the ensuing year, and for other business." Let the shareholders be up and doing, and not lose this opportunity of ascertaining their real position, and of securing more efficient men to manage their affairs for the future. We recommend the English shareholders to strengthen the hands of those gentlemen who are fighting their battle in the north, by sending a representative to the meeting, or by remitting their proxies to Mr. JAMES ANDERSON, at the address mentioned in the advertisement. Do not consider the small number of shares which each may hold; but recollect that, when all are added together, they will prove of great importance, and that every share will be of use in the coming struggle. Some very large proprietors are the foremost in endeavouring to effect a change in the present system of conducting the operations of the company; but the other party are also strong in the number of shares they hold, or can command; and it will require every exertion to ensure the triumph of those who are anxious to improve the position of the undertaking.

It has become a question of vast importance to the mining interests, as to the effect of the Act 7th and 8th Vic., c. 111, and that of 11th and 12th Vic., c. 45—the latter being known, or recognised, as the "Winding-up Act." We insert, in another column, the opinion of counsel, with which we must be allowed to say we do not entirely concur. That there should be a difference of opinion prevailing can be best understood by the mere mention that three courts exist—the one that of Chancery, or equity, as it is termed, another the ordinary courts of law, and the third the Stannaries' Courts, which partake of both, and to which we contend all mines worked on the Cost-book System must be subject, and where alone they can obtain relief. We are well aware that a variety of opinions are entertained on this question, and we form one of the exceptions. We (although not learned in the law) differ with the learned barrister whose opinion we have quoted; and, were he possessed of more information than that conveyed in the opinion given, as relates to the Cost-book System, we feel assured he would have arrived at a very different conclusion. However, we give the opinion as we have received it, and doubt not but that some of our legal friends will take up the subject; and in the interim, with the view of raising or meeting the question (take it as you will), we will at once express the conclusions at which we have arrived on reading the Acts, and the opinions given. We perfectly agree with the learned counsel, that many very important and difficult points are involved in any question which may be raised affecting the working of mines, and the two Acts referred to, which we believe neither the legislators who passed the same, or the judges who may be called upon to express their opinions thereon, understand. If we are right in this conclusion, we may at least claim for ourselves some indulgence in differing from the law, as laid down in the opinions before us, inasmuch that we merely take a common-sense view of the question, and if we err, we trust that we may be set right by some of our legal and well-informed correspondents. The Cost-book System we believe to be but very little understood beyond the precincts of Cornwall, and, therefore, we are led to entertain some doubts as to the opinions expressed; and although the Act of 7th and 8th Vic., c. 111, excepts companies formed for working mines

on the Cost-book System, it is even a matter of doubt, up to the present moment, whether such clause applies solely to companies then in existence, or which might be subsequently formed; and, further, whether any mine worked under any other system could alter their laws, and be considered as working on the Cost-book Principle. We consider that, ere any resolve can be arrived at in this respect, that it must be first established—What is the Cost-book System? and, such having been done, it then remains to be seen whether the several companies formed for working mines, have adhered thereto, or how far they have deviated? while we have no hesitation in expressing our belief, that in not one case out of twenty has the system been observed; and which will, we believe, be shortly tested in the cases of the Wheal Concord Mine, and also that of Wheal Trenchance. The opinion, as we have received it, we lay before our readers, and defer making further remarks, except that we do not assent to the doctrine of the learned counsel advanced, which is, in some degree, borne out by the ulterior measures taken in the cause "Fox v. Wilson," the result of which will be found in another column. The proceedings in court, the dictum of the judge, and opinion of counsel, will form subject matter for remark in next week's *Journal*.

Since the very successful experiments which have been made in the metropolis with the electric light, and as the promoters of the principle pledge themselves to the power of continuity of light, the question necessarily has become one of the utmost importance—of the greatest magnitude—and one to which the attention of all persons, whether rich or poor, is now directed, with a desire that it may be fairly tested—that full scope and power may be given to encourage, if deserving, the adoption of the system. It is, therefore, very necessary that all matters, in connection with its introduction, should be as clear as the electric light itself—that there should be no misconception—no spec to dim its lustre.

We are led to these remarks in consequence of the receipt of many letters, from correspondents and subscribers, expressive of their astonishment that a matter of such interest, magnitude, and importance, should still be without patrons or supporters. This, they state, appears to be the case from the fact, that advertisements have been published, asking for subscribers, yet without a single name, either as trustees, patrons, directors, secretary, or bankers, &c. The names of the solicitors alone appear—those of Messrs. HARRIS and WINTER, of Essex-street, Strand. We do not know this firm personally; but are assured by our correspondents that they are gentlemen of unimpeachable respectability and character, and, although young in their profession, that they could not be led knowingly into anything questionable. The withholding of the names of the directors does necessarily bear an unfavourable and discouraging appearance; but we presume the delay in their publication has arisen from the delicacy required and extreme difficulty of selecting a board from all the leading firms of London.

We do, however, hope, that before our next publication, we shall be authorised to announce a directory, duly qualified, in every particular, to become a guarantee to the public, for an equitable distribution of the shares, a proper and economical expenditure of the funds placed at their disposal, and a fair and impartial application of the principle, without reference to existing interests, personal advantages, or disadvantages—that there may be no undercurrent—that the system, or principle, may be tried on its own merits.

Dr. RYAN has been engaged, during the past week, in delivering a course of popular lectures at the Royal Polytechnic Institution, on the important subject of agricultural chemistry, suited especially to the farmers, who, at this season of the year, visit the metropolis in such numbers. The reputation of Dr. RYAN, as an agricultural chemist, has been long established, and it will be remembered by our readers, that three years ago, he was chosen by the council of the Royal Agricultural Society of England, to deliver the annual lectures before the members. In the lectures which he has just delivered, he confined himself principally to "the food of plants, and the sources from which that food is derived." "Plants (he states) are composed of organic and inorganic constituents. That which escapes during combustion is the organic portion; that which remains in the ashes is the inorganic matter; it will, therefore, be seen, that the inorganic portion bears but a small proportion to the whole weight of the plant. The organic constituents, however, of the plant, although so predominant, are entirely obtained from the atmosphere; the inorganic constituents come from the soil."

Dr. RYAN then explained the nature and character of the organic constituents—carbon, hydrogen, oxygen, and nitrogen. "The great source of the carbon of plants (he proceeded to show) is the carbonic acid of the atmosphere, a substance which is produced in enormous quantities during the processes of respiration, combustion, and animal and vegetable decay. The same materials escape in great abundance from many natural springs, as in the 'Valley of Poison,' in the Island of Java, the 'Grotto del Caul,' near Naples, &c. From the lake at Laachen, no less than 600,000 lbs. weight of carbonic acid gas are given off per day. Now, this substance is a deadly poison to animals—a very small per centage in an atmosphere is sufficient to destroy life. How beautifully, therefore, is the balance kept up between the animal and vegetable world! That which is poisonous to animals is necessary to the existence of vegetables, and, therefore, they are during the day constantly engaged in decomposing the carbonic acid, assimilating the carbon to form the future wood, and setting free the pure oxygen into the air. Were it not for this circumstance, the atmosphere would in time become so loaded with this poison, as to be no longer respirable. It is an interesting fact, that reproduction treads so closely on the heels of decay, and that amid the apparent destruction of matter, by burning or decomposition, so valuable a compound should be produced; and that even the very breath of an animal should be required for the sustentation of its future food."

Dr. RYAN then proceeded to explain the sources of the organic constituents—oxygen and hydrogen. These, he stated, were derived from the atmospheric water, which, like the carbonic acid, was the product of respiration, of combustion, and of decay. The last organic element—the nitrogen of plants—Dr. RYAN stated existed in the atmosphere in great abundance, forming four-fifths of the whole; but he believed that plants did not derive the nitrogen directly from the air, but from the carbonate and nitrate of ammonia existing in the atmosphere—the results also of the decomposition, or of certain electrical conditions of the air. During the discussion of these important points, Dr. RYAN illustrated the subject with several striking experiments.

The second part of the course was devoted to the consideration of the inorganic portion, or the ashes of plants, and the sources of their supply. For purposes of illustration, he chose the most constant constituents—such as silica, potash, soda, lime, oxide of iron, phosphoric and sulphuric acids. After explaining the nature of silica, and its common existence in the form of sand, flint, &c., he explained the process by which Nature renders the silica soluble by its union with potash, soda, or lime, so as to enable the plant to take it up. He also explained, at considerable length, the action of carbonic acid on chalk, in rendering that substance soluble as a bicarbonate. In speaking of oxide of iron, Dr. RYAN made some remarks, which are most important to farmers. He showed that iron may exist in a soil in two states of oxidation, or, in chemical language, as a proto or peroxide. The proto is the lowest degree of oxidation; the per is the highest state. If the iron be in the soil in the lowest state of oxidation, it has so strong an affinity for

oxygen, that it takes up the free oxygen of the air, or that which is in solution in rain water, and thus deprives the plant of one of the most important adjuncts of vegetation. "In those places (Dr. RYAN remarked) where fairy rings existed, and where vegetation was evidently weak, it was generally found that the soil contained the protoxide of iron, instead of peroxide."

In speaking of the sources of the inorganic constituents of plants, Dr. RYAN proved that they existed in all rocks in greater or smaller quantity; and, as soils are formed by the disintegration and comminution of rocks by air and moisture, it is evident that the soil will partake of the peculiar character of the rock over which it is deposited. This he gave as an instance, that felspar, by decomposition, yielded between 14 and 15 per cent. of potash. In the concluding portion of the course, the lecturer explained the principles of artificial manuring; and insisted upon the necessity of the chemical examination of the soil, and its comparison with the requirements of the future plant, before manuring could be applied systematically and with certainty. In conclusion, Dr. RYAN congratulated his hearers on the removal of most of the prejudice which formerly existed against the application of chemical science to farming; and, although he still occasionally found distrust in the minds of some, yet the best proof of the progression was the fact, that all our best educated and influential agriculturists were not only availing themselves of the aid of the chemist, but were endeavouring, both through the press, and at every agricultural meeting, to overcome the prejudices of their brethren.

OPINION OF COUNSEL UPON THE STATUTES AFFECTING MINING COMPANIES.

The questions submitted in this case involve many very important and difficult points, as to the construction and effect of the several Acts referred to, as to which, as it seems to me, some misconception exists.

The recent Act has nothing to do directly with the making companies bankrupt. The proceedings for that purpose are still left to operation of the former Act, 7 and 8th Vic., c. 111. The provisions of the new Act apply to the dissolution and winding up of the companies or extensive partnership; and as to insolvent companies, which may have become bankrupt, take up the proceedings at a certain stage, for the purpose of facilitating the final adjustment of their concerns.

The two Acts, therefore, must be looked at separately and distinctly, and the first question, as regards the company under consideration, is whether it is intended to make it bankrupt under the first Act, or merely to dissolve and wind it up under the second Act.

If it is intended to make it bankrupt, the proceedings for that purpose must be regulated solely by reference to the 7th and 8th Vic., c. 111. If it be intended simply to dissolve and wind it up, then regard must be had solely to the 11th and 12th Vic., c. 45.

The advantage of making the company bankrupt, supposing it can be done, would be to afford some sort of protection against the claims of creditors not being members of the company.

The Act for dissolving and winding up affords no such protection, because, by the 58th section, it is expressly provided, that the rights and remedies of creditors not contributors—i. e., members—are not to be altered or affected in any way.

The first question therefore is—Can this company be made bankrupt under the 7th and 8th Vic., c. 111? The second—If it can, in what way, and by what form of proceeding?

To answer the first question, it must be determined whether a mining company, established on the Cost-book Principle, is within the definition of the companies to which that Act is expressly made applicable. Of this definition the last member is the only one within which it could be comprehended—viz.: "A joint-stock company existing at the time of the passing of that Act, and comprehended within the definition contained in the 8th and 9th Vic., c. 110, of a joint-stock company." It is necessary, therefore, to look back to the definition in that Act. Now, among other associations, comprehended within the definition of a joint-stock company, we find this—"Every partnership which, at its formation, or by subsequent admission (except any admission subsequently on dissolution, or other act in law), shall consist of more than 25 members. And this branch of the definition would embrace the company under consideration. But, then, the 63d section enacts, by way of proviso, that nothing in this Act contained shall extend, or be construed to extend, to any partnership formed for the working of mines, minerals, and quarries, of what nature soever, on the principle commonly called the Cost-book Principle."

And this proviso must, I think, be construed as an exception, and as taking out of the category of partnerships, which are included in the definition of joint-stock companies and mining partnerships, established on the Cost-book Principle.

If so, then such partnerships are not within the scope of the 7th and 8th Vic., c. 111; and it appears to me that this is the sound conclusion.

Assuming, however, that they are within the last-named Act, or that the point is, at all events, doubtful; the second question arises, how are they to be made bankrupt?

Now, it seems to me quite clear, if I am right in supposing that such companies, or this company in particular, has no board of directors, that the act of bankruptcy cannot be committed by a declaration of insolvency, in the manner prescribed by the fourth section of that Act, because there can be no resolution of a board of directors, and no authentication of the declaration of insolvency by the chairman of such board. If, therefore, an act of bankruptcy is to be committed, and a fiat to be issued, it must be by some one of the other modes pointed out in that Act. But I cannot discover any provision in that Act, which would be applicable to such a partnership as this, as respects the commission of the act of bankruptcy, because all the proceedings there contemplated as leading to an act of bankruptcy, are proceedings against a company in its collective capacity, which, in such a case as the present, could not be taken.

Upon the whole, therefore, I am of opinion, that there exists no means of making this company, or partnership, a bankrupt, under the provisions of the 7th and 8th Vic., c. 111, and, consequently, that it is useless to consider what would be the effect in staying the proceedings of creditors, if a fiat were to issue.

But although the company cannot be made a bankrupt, it may be dissolved, and wound up under the provisions of the new Act, 11th and 12th Vic., c. 45, for that Act is in express terms made applicable to "all associations for working mines or minerals." And if it be desired to take this course, a petition must be presented by some member of the company, or partnership, to the Lord Chancellor or the Master of the Rolls, for the dissolution and winding up of the company, which petition must be founded on some one or more of the grounds, or cases, mentioned in the fifth section; among these (No. 2) is the following:—"If any company shall, by virtue of a resolution to be passed in that behalf, at a meeting of such company, or of the directors of such company, summoned in that behalf, have filed, or caused to be filed, &c., a declaration that the company is unable to meet its engagements." This has nothing to do with the declaration of insolvency prescribed by the fourth section of the 7th and 8th Vic., c. 111, and does not need to be authenticated as there required. But it must have some authentication, and as the framers of the Act have not chosen to say what it should be, there is necessarily some doubt and difficulty about it. My opinion, however, is, that it will be sufficient, if it be signed by the chairman of the company present at that meeting, though it would be safer to have it signed by all the partners present; and also to have it attested by a solicitor, appointed, *pro tem*, by a resolution of some member. The proceedings subsequently to the petition, will be regulated entirely by the 11th and 12th Vic., c. 45; and I have already said, that they will not affect, or stay, proceedings by individual creditors against individual members of the partnership. The effect, however, will be to make all the partners ultimately to contribute fairly and ratably to the extent of their ability, and then to prevent one or a few being made a sacrifice for the rest.

IMPORTANT TO MANUFACTURERS.—A case of much importance, as affecting the rights of individuals manufacturing peculiar articles, in cases where the same are not secured by patent right, was heard at the Wakefield County Court, on Thursday evening. It appeared that Mr. Seal is a scythe and whetstone manufacturer, and had placed a label upon his scythes and whetstones, thereby depreciating the price of the company's stones. A verdict for the plaintiff was found—damages, 5*l.* and costs. The Judge considered this amount very slight, and gave leave for the plaintiff to take out a new trial, which was accepted.

THE BANK CHARTER ACT OF 1844, AND THE INDUSTRIAL INTERESTS OF THE COUNTRY.

II. THE MANUFACTURING INTEREST.

With the distinction clearly drawn between such transactions as are carried on chiefly through the agency of bills or book credits, and such as require coin or small notes, we at once see how much more the manufacturer and miner are affected by the abundance, or scarcity, of money than the farmer or landed proprietor. The amount paid in wages by miners and manufacturers, may, perhaps, be estimated at four times that so spent by the agriculturists of this country. Not that four times as many labourers are employed in mines and factories as on farms; but a large proportion of factory wages is double, and even treble, or four times that of farm servants. Wages are universally paid in ready cash; and their amount, as we have seen, circulates through the shopkeeper and his banker, until it again reaches the manufacturer, as a part of his discounts, to be again paid away in wages. The limitation of discounts, consequent on the exportation of gold prescribed by the Bank Charter Act, thus threw greater difficulties in the way of the miners and manufacturers than in that of the agriculturists, in proportion to the greater number of workmen employed by the former. These difficulties were raised, it must be remembered, while two severe shocks were given to credit throughout the world, through the over excitement in railway enterprises, and a famine of an extent and character hitherto unknown in Europe. The sole anchor of the industrial classes of western Europe in this emergency, which forced them into temporary dependence on America and the East, lay in the productive exertions of the manufacturers, whose earnings (master's and men's) were what a major part of the community had to look to for the means of buying food. At that awful crisis, the screw put on by the Bank, in pursuance of the limitation of its circulation to a proportionate ratio to the gold in its coffers, acted with fearful rigour.

Facts, during the years 1846 and 1847, warrant the assumption of a positive scarcity of notes and coin. The sums invested in railways had nothing more to do with this scarcity, than inasmuch as they gave occasion to a large additional payment of wages. Whatever deposits were locked up in the Bank of England, or in the hands of private bankers, in no way affected the cash circulation. Such transactions as payments of deposits and purchases of shares, are always transferred in account, or by cheques, and form part of those large dealings which are never to any extent carried on in small coin or notes. The high value which ready money obtained in 1847, was a thing totally distinct from the want of confidence, which, at the same time, hampered large transactions. We had an unusually large number of workmen to pay in consequence of the extension of the railroads; and the kind of money suited to wages was diminished in quantity; but, as if this was not enough, the famine in Ireland, and the means used to alleviate it, brought the whole poor of that nation, where credit could not be exerted, and every payment had to be made in coin or small notes, into competition with our workmen. The recipients of relief in Ireland divided the market with the earners of wages in England. Money rose to a famine price, and the Bank Charter Act broke down.

That the Chancellor of the Exchequer's letter was not acted upon is matter of little congratulation, excepting in as far as the necessity for using the permission it gave, arose from the possibility of discontinuing the relief afforded to Ireland. The good harvest of 1847 was, unhappily, accompanied by a cessation of enterprise, on a large scale, in England, as well as on the continent. Iron furnaces were blown out. All workings in mines, that did not promise great returns, were discontinued. Railroad speculation was checked, and works were curtailed and abandoned. These were the true causes why the Chancellor of the Exchequer's communication proved, in every respect, a "dead letter." It was no revival of prosperity, but a general distribution of pressure, which righted the ship, and gave a momentary appearance of strengthened resources to our industrial interests. The special result to the miner and manufacturer of the pressure to which each was thus subjected, is a matter worthy of deep study, for it involves a very serious element, which must be carefully taken into account in all speculations on our future prospects. We distinguish two marked features as having, on this occasion, presented themselves, and which may be expected to reappear when circumstances invite to a renewal of activity in mines and factories, unless they be timely provided for. In the first place, the increased value of current cash, for which such high rates as 9 or 10 per cent., or more, were commonly paid in the autumn of 1847, caused a sudden rush to convert fixed into circulating capital. It is owing to this cause, far more than to any distrust in the prospects of railways, that the share market has been overloaded with sellers, and the value of this kind of investments has so much sunk. No doubt the disinclination to incur liabilities, while discounts were restricted, concurred to depreciate railroads, and this consideration affected mines, and other industrial investments, and accounts for the difference observable between their value and that of the public funds. As another consequence of the high value of ready money, the calling in of all outstanding debts must be noted—a circumstance which, under the increased difficulty experienced in meeting these demands, added greatly to the shock given to credit. The desire to foreclose mortgages, accompanied the wish to draw out of railroads and other industrial investments; but as land is seldom bought, except with a view to a permanent investment, the number of sellers was not sufficient to depress its value. Were the value of land, however, to be quoted as on the share market, from the foiled attempts to sell the Blessington property in Ireland, land would now seem to stand even lower than railroad shares. The lesson to be learned from this state of things is, that owners of fixed capital, who have no special inducements to realise, must not be startled into a panic on every disturbance which occurs in the market of circulating capital.

The second feature, prominent in the present crisis, has been the necessary restriction of enterprise to commercial dealings with short returns, both as a consequence of the high value of current cash, and of the shock given to credit. Now this, were it to continue, would amount to a virtual abandonment of distant markets, and especially of those markets which we monopolised, because our good commercial arrangements allowed us to supply them on the best terms. If we give up any advantages which we have hitherto enjoyed, we must not close our eyes to the serious competition which will spring up on the continent, where skill and enterprise have long only been lamed by injudicious restrictions on trade, and where the low rate of wages gives the manufacturer and miner a great advantage. In reckoning with the future, we must make up our minds either to keep these markets, or to have them open to such as can compete with means, which we shall point out in our next.

GOVERNMENT COMMISSION OF ENGINEERS.—At the recommendation of the Railway Commissioners, a commission of practical engineers and scientific men has recently been appointed to investigate the propriety of employing iron, and particularly cast-iron, in railway works. It appeared to the commissioners, that although what was already known may have proved sufficient for the guidance of engineers in the application of iron to works which are not exposed to an action differing materially from a steady load, yet there appeared to be great doubt whether the experimental data and theoretical principles at present known are adequate to guide them in designing iron bridges, when they are to be traversed by loads of extraordinary weight with great velocities. The commissioners are of opinion, that when exposed to the rapid motion of railway trains, the structure should be capable of sustaining, without permanent injury to any part, the concussions that any irregularity may occasion, as well as the vibratory action. They believe that much difference of opinion exists among the most eminent engineers of the present day, as to the proper form and dimensions to be given to iron girders to resist the combined action of alternating forces. The commissioners consider their recommendation the more important, seeing that the last few years have rendered necessary the construction of a number of bridges for the use of railway trains passing at great speeds, in designing which they thought that the known laws relating to the strength of materials are probably inapplicable, while the experiments requisite to ascertain those which may be applicable are beyond the means of individuals to make, and require the aid of the highest science; neither can the solution of the question, they contend, be left to time or the experience of a number of faithful accidents, the knowledge being needed at once, as great numbers of such works are constructing, and about to be constructed, in various districts of the kingdom. The commissioners recommend, therefore, that every facility for experiments on an extensive scale should be given to the commissioners, that they may arrive at such principles as to enable the engineer and mechanic, in their respective spheres, to apply the metal with security and confidence.

SOUTH WESTERN.—The rumour that the London and South Western Railway intended to withdraw their day tickets is contradicted as incorrect, though a revision in the rates of charges, for the benefit of the public, is under the consideration of the directors.

PENINSULAR AND ORIENTAL STEAM NAVIGATION CO.

In another part of our Journal will be found a very detailed report of the proceedings at the annual meeting of this company on Wednesday, which appeared to give general satisfaction to the proprietors. It seems that, after making an allowance of 5 per cent. for depreciation on the company's vessels, paying the managing directors their commission, reserving 7000*l.* to meet the balance of expenses in placing four vessels on the India and China stations, and paying the dividend to the 31st of March last, there remains out of the profits of the year an available balance of 51,827*l.*, to meet the dividend for the past half-year and outstanding claims. Perhaps, the great and distinguishing feature of the report, in the eyes of the proprietors and the public, will be the existence of three important funds, as ensuring the greater security to the income of the company—viz.: the repairing, depreciation, and insurance funds. The first of these funds has been created by the appropriation of 10 per cent. per annum out of the earnings of the company on the cost of the vessels, and now amounts to 60,000*l.*, though the directors justly remark, that it cannot be considered a permanent reserve, as the older the vessels get the more repair they will require, though, from their experience of iron vessels, they entertain a hope that the cost of their repairs will be less than that of wooden ones, on which this reserve is founded. The second, or depreciation fund, has been formed at an estimate of 5 per cent. per annum on the value of the ships and machinery, and the amount, so reserved, of 173,902*l.* has, from time to time, been applied to the construction of new vessels and machinery, which are now represented to be in a high state of efficiency.

The last, and, perhaps, most important, of these reserve funds is the insurance fund, amounting to 128,000*l.*, which has accumulated from the earnings by reserves of about 5 per cent. per annum on that portion of the company's floating capital which remained uninsured to underwriters, and upon the security of which funds the directors, on Wednesday, proposed that the company should in future become their own underwriters, so soon as present policies expire. On the subject of these various funds, the directors say they think it right "to record their conviction, that without making such provision previously to the division of any profits, no steam navigation enterprise can be said to be placed in a sound financial position, and to do otherwise would be tantamount to paying a dividend out of capital." At the meeting on Wednesday, a dividend of 4 per cent. for the half-year, free of income-tax, was declared, and the suggestion of the directors, that the company should become their own insurers, carried with only two dissentients. It was also announced that the situation of Mr. Carleton, deceased, as one of the managing directors, was to be filled up by the appointment of Mr. Allan, formerly secretary of the company, and lately senior assistant to the managing directors, to whose high qualifications and character for the office universal testimony was borne, though all appeared to regret the cause which leads to his advancement. We trust, for the interest of the company, that Mr. Allan will be found equally efficient in his new situation, as he has proved in those he has hitherto filled.

STEAM FLEET OF THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY.

SUEZ AND CALCUTTA STATION.			
	Tons.	Horse-power.	
Bentley	1800	520	
Precursor	1600	500	
Huddington	1500	500	
Oriental	1600	500	
BOMBAY AND CHINA STATION.			
Pekin	1100	430	
Achilles	1000	420	
Mulla	1225	450	
Pottinger	1400	500	
Braganza	800	280	
Lady Mary Wood	650	250	
CANTON RIVER STATION.			
Canton	400	150	
SOUTHAMPTON AND ALEXANDRIA STATION.			
Hindustan	1500	520	
Indus	1400	450	
Ripon	1500	450	
CONSTANTINOPLE AND BLACK SEA STATION.			
Sultan	1100	400	
Evadne	1100	400	
Taqut	900	280	
Erin	850	280	
PENINSULAR STATION.			
Montrose	650	240	
Iberia	600	200	
Pacha	600	210	
Jupiter	600	260	
Madrid	500	160	
NOW BUILDING.			
Ganges	1205	450	
Bombay	1205	450	
Vedra	900	350	

THE ELECTRIC TELEGRAPH.

A paper, "On the Present State of Electricity, as applied to Telegraphs," was read by Mr. N. J. Holmes, at a meeting of the Society of Arts, on Wednesday last.

Mr. HOLMES, in bringing the subject forward, stated that it was his intention on this occasion to consider only the principles of the best known forms of existing telegraphs, and not to enter into the various modifications into which the subject had extended, as many of the recent adaptations were merely simple evasions of original patents, without any claim to merit for the advancement of science. Having given a succinct, but comprehensive, history of the state of electricity, with respect to the application, *sub judice*, from 1746 to 1800, when Volta discovered that the current obtained from his pile had the property of overcoming the difficulties presented by the use of free electricity, he dated the progressive advancement of the science from Ersted's grand discovery, in 1819, of the rotatory influence exercised by an electric current upon a magnetic needle, immediately followed by that of Arago, in the formation of the electro-magnet. The introduction of the telegraph into this country did not take place until the year 1837, at which period the subject was occupying the attention of the scientific, and many were endeavouring to carry out practically the idea, but without success; and it was not until Professor Wheatstone's researches into the more theoretical portion of the science that the requisite perfection was obtained. The existing telegraphs were classified into two great divisions—namely, those of a mechanical nature, in which the intervention of clockwork, set in motion through the agency of electricity, was used to produce the necessary indication, and others embracing a more theoretical construction, depending upon the direct action of the current, either by induction upon a magnetic bar, producing deflection, or by the decomposition of certain chemical solutions, placed so as to form a part of the metallic circuit. With respect to telegraphs generally, it was stated that their adoption could not be advocated for either railway or commercial purposes, where great attention could not be bestowed on their working in detail—the imperfections arising from their mechanical liabilities destroying their utility. The only railway in this country, out of the 2000 miles of telegraph laid down, upon which they had been adopted, was the South Devon, and there they were used to give the signals for starting the fixed engines in connection with the atmospheric system. Previously to the abandonment of that principle, such was the perfection to which Mr. Holmes (under whose superintendence they were erected) had arrived, that as many as 2000 signals were sometimes given through the series without the commission of a single error.

After adverting to the numerous varieties of printing telegraphs and alarms, Mr. Holmes exhibited his new signal, as a substitute for the old clockwork bell, producing the sound by means of an air-whistle. Mr. Holmes then proceeded to the second division, pointing out the various errors in the old forms of needle instruments, as well as the several improvements which had been effected—first, by the introduction of his diamond instrument, now working over all the commercial stations in England, and producing an enormous decrease in the battery power; and, secondly, by his new form of helix, which further reduced the helical resistance in the instrument, which was a point of considerable importance.

In speaking of the chemical telegraph, recently improved by Mr. Bain, by which communication had been effected between Liverpool, London, and Manchester, he observed, that owing to the imperfections in the instrument used, the powers of that improvement were not fully developed—great resistance and want of rapid reciprocity, in cases of error, still existing. With respect to insulation, he (Mr. Holmes) stated, that the application of electricity to telegraphs was still very imperfect. The uncovered wires, extending over the lines in the country, were necessarily exposed to the injurious influences of the atmosphere, arising from rains, fogs, deposition of saline matter in the neighbourhood of the sea coast, as well as the action of decomposed vegetable matter. This existed to an

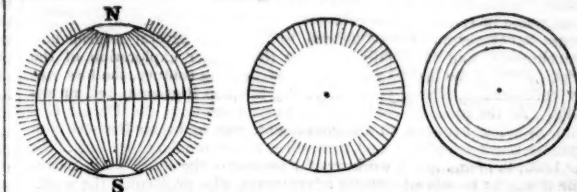
extent that frequently interrupted the communication, and rendered it necessary to clean the insulators with soap and water. The street work in the metropolis was also open to serious objection, being founded upon a fundamental error—namely: that of enclosing one conductor in another improperly protected. To remedy the defects, he (Mr. Holmes) exhibited a plan by which it was proposed to improve the insulation—the wires being enclosed in a non-conducting substance from end to end, and illustrated the practical operation of his theory by some very beautiful specimens of the improvements it would effect. Mr. Holmes concluded, by briefly noticing the derangement the telegraph was liable to receive from lightning and the influence of magnetic storms; and the methods hitherto adopted were demonstrated to be quite inadequate to counteract the effects of these phenomena.

The whole of the explanations were lucidly illustrated by suitable diagrams; and the views of Mr. Holmes elicited marked applause from a numerous auditory—amongst which were many of the savans of the day.

SUPERFICIAL FORMATION OF GOLD, SILVER, TIN, &c., OR THE CONCENTRATION OF METALS IN ALLUVIAL DEPOSITS—NO. II.

BY E. HOPKINS, C.E., F.G.S.

I have already explained that there are three distinct lines of crystallisation in the mineral kingdom, with reference to the globe, or any other artificial nucleus, causing the mineral compound to form a geometrical structure during the state of change, or chemical activity—viz.: the "polar," the "concentric," and the "radial"—the first being in lines more or less corresponding to the meridian; the second, the *exfolia*; and the third, vertical to the superficies, like the growth of vegetation, or efflorescence, as shown in the following sketches:—



Iron, with its compounds, has an universal tendency to occupy the meridian lines, like the magnetic needle; but the silicates of iron, manganese, &c., tend to both polar and radial, and consequently, form, as it were, the medullary rays of the sphere; or, in other words, the vertical polar cleavage, as observed in all the crystalline rocks in every part of the world, as shown in the centre circle, or the equatorial section.

However, our present subject is confined to the *radial* crystallisation, and the decomposed exfoliated part of the surface of crystalline rocks; the polar action, cleavage, &c., must be left, until we come to cleavage and mineral veins, when the beauty and harmony of the laws which govern the mineral kingdom will be more clearly demonstrated, as well as their agreement with the known laws of terrestrial physics. Gold and tin, if not embodied, or overpowered, by strong polar substances, such as sulphures of iron, copper, or other compounds of similar polar tendency, remain in the crystalline base in the disseminated state, they crystallise or effluence towards the surface. If silicates happen to be in excess, they will produce a fissile structure, and the longitudinal action generated by which causes tension, and, consequently, a series of transverse fractures will take place; the surface of these internal planes become gradually coated by the metals the rock may contain, and thus form veins. But if felspar happens to be the predominating ingredient, and this strongly saturated with iron, or any other substance susceptible of rapid oxidation, the exfoliated decomposition will ensue, the silica aggregates into centres, the felspar is reduced into clay, the metal collects into grains, disintegration takes place, and the thin, loose, friable surface is gradually washed into ravines; the heavier substances fall to the bottom, and accumulate, whilst the lighter particles are washed away by the torrent. Such is the general character of the deposits of the gold and tin stream washings. These deposits are, therefore, the product of friable metalliferous rocks—the metallic contents of which can only become available by this process of slow decomposition. The value of such deposits depend on the superficial extent of the metalliferous rocks falling towards the head of the ravine, and the level of the plains, to receive the accumulations of centuries. It will be easily conceived, that works of discovery, carried into the hard crystalline base, beyond the deposit, in such rocks, must prove fruitless; and if such explorations be carried on by such men as have no other knowledge to guide them underground than the occasional specks of mineral in the rocks, prisms quartz, &c., their reports would be "kindly and promising" until doomsday, and, consequently, an immense capital would be wasted away in unprofitable works.

Gold has been often found in the tin streams of Cornwall, and is frequently associated with the oxides of this metal in the schorlaceous granites, and also in the ravines intersecting the ferro-felspathic rocks of Scotland; and, in every case, it is found attached to the surface of yellow ferruginous quartz. This quartzose compound is easily recognised by those who have studied geology in the works of Nature, or those who know the product of rocks, from their structure and composition, the true science of geology applied to mines. When the gold was discovered in the streams of Ballin Valley, in the county of Wicklow, in Ireland, almost the whole population of the neighbourhood flocked, like the Californians, and now the Copiapinos, to gather so rich a harvest, and actually neglected at the time the produce of their fields. Stream works were established, and continued for a few years, and the products left a surplus over expenditure. This, however, was soon lost, as well as another capital added to it, owing to the mistaken notion of the existence of a *mother lode*, from whence it was supposed the fine deposit of gold came.

The best miners of the old school were consulted, and encouraged this idea, the solid mass was soon intersected by numerous trenches, levels, shafts, &c., every quartz string was driven through, under the impression of finding the grand source of this wealth, but of no avail; with the exception of occasional grains in vacuities, or joints, nothing was found worthy of notice, and the undertaking was abandoned. Yet these same valleys still furnish a small amount of gold annually, and will continue so to do, whilst the granitic domes remain subject to decomposition. The same superficial action prevails on the east flank of the Chilean Andes, on the east flanks of the Columbian chains, on the east flanks of the Isthmus of Panama, Veragua, and the United States, and also on the east flank of the chain of the Ural, in Russia.

[To be continued in next week's Mining Journal.]

We are informed, that the Government iron foundry, established at Truvia, in the Asturias, is now in full operation. The direction is confided to Don José Antonio de Elorza, colonel of the Spanish Artillery, who some years since resided in this country; he is one of the ablest engineers in the Spanish service, and is well known and respected for his abilities and urbanity. The furnaces, which have been built under his superintendence by an English bricklayer, assisted by Spanish workmen, are of the same construction as the Welsh, and the fuel is coke made from Asturian coal, which has been found to be of admirable quality. This establishment, which can rank itself with the first in Europe, is designed especially for the casting of cannon, projectiles, and all sorts of ammunition required for military purposes. It is intended shortly to add to it a lesser manufactory, for the making of small arms. The machinery is all of the newest and most approved construction. Several cadets of the Engineers and Artillery are placed there, under Col. de Elorza, to receive instructions in the different processes.

GLASS GAS BURNER.—The Metropolitan Light Company, of West Strand, who have for years continued the production of various novelties in gas burners, have just patented what they term a "glass gas burner." It is an Argand burner, entirely surrounded both below and above with glass, cut and engraved in various devices, or may be had plain, according to the taste of the consumer. The gas by the arrangement is supplied, both in quantity and position, with the proper quantity of atmospheric air to secure complete combustion—while the flame is kept perfectly free from the action of sudden draughts, and a brilliant and silvery light is the result; indeed, so intense is the whiteness and purity of the light, that in broad daylight, it gives a luminosity which even sun light does not pale, as with other descriptions of burners. Profs. Bachhoffner and Ryan have both given testimonials, speaking in the highest terms of the superior character of this and several other burners introduced by this house.

Original Correspondence.

KONGSBERG SILVER MINES.

SIR,—As these mines, though some of the most celebrated in Europe, are comparatively but little known to the public, a brief account of them may not be uninteresting to your numerous readers.

The mines, which are in the vicinity of the town of Kongsberg, lie about 52 miles from Christiania, the capital of Norway, and are about 1800 to 2000 feet above the level of the sea. They were first discovered in 1624, during the reign of Christian IV., by a peasant of the name of Granvold, and were immediately taken possession of by the Crown. As at that period there were few people in Norway who understood the science of mining, superintendents and labouring miners were brought from Germany to conduct the necessary operations. After they had been here some years, a jealousy arose on the part of the natives against them, and differences occurred, which often led to bloodshed, and subsequently resulted in the total expulsion of the obnoxious foreigners. From this period the works were under the superintendence of the Mining College (*Berg Collegium*), which had its principal seat at Copenhagen, and appointed and dismissed the officers and superintendents at their pleasure. As this machinery was found to be cumbersome, great retrenchments were made, and the mines partially leased to private individuals. For the first sixty years they were, therefore, alternately worked by the State and these adventurers, but, for the most part, at a great loss. In the commencement of the eighteenth century they, however, revived; but again materially deteriorated towards the year 1747. From this time, until the three years from 1765 to 1768, the production had considerably decreased; in the former of these years, for the first time, the produce exceeded 30,000 marks of fine silver, and in the latter it reached the greatest produce it had ever attained, having in that year risen to 35,313½ marks. From the year 1769 the expenses increased yearly, while the production decreased, on which account the Government were obliged to introduce several reforms and retrenchments, and materially decrease the further exploration of the works. During the last 10 years of the preceding century, the loss was very considerable, several years exceeding 200,000 Rigsbank dollars annually. At the commencement of the present century, the Danish Government being involved in the continental war, and their finances consequently much crippled, found themselves necessitated, at the close of the year 1805, to abandon the workings for account of the state; in the meanwhile it was let to several private adventurers, who prosecuted the workings in a very irregular and ruinous manner. In this condition it remained until the year 1816, when the Norwegian Government, who two years previously had declared themselves independent of Denmark, again resumed the mines. From this period they have ever since remained the property of the State. Until the year 1825 the explorations were carried on without any gain accruing from them, although but little loss ensued. The Government then offered them for sale in London, and at that period an English house of great commercial respectability offered for the mines, royalties, &c., the sum of 36,000*l.*; the negotiation was nearly concluded, when an obstacle intervened—the Government requiring that the purchasers should pay to the superannuated and disabled individuals dependent on the works, the pensions settled on them by the State; this amount was at that period about 400*l.* per annum, but would have gradually lessened as the pensioners died off. Although willing to give a guarantee to the Government that they would keep their own poor, they declined supporting any incumbrances left by the State. In consequence of this, the commissioners having no power from the Storting to conclude the negotiation on any other basis, it was totally broken off. A committee of scientific men were then appointed to investigate and report on the mines—the result was the determination of the Government to extend the workings, and prosecute them according to an energetic and systematic method. In the year 1830 they first became profitable; there was produced in that year 8200 marks of fine silver; in 1831, 9220 marks; in 1832, 21,565 marks; and in 1833 the produce arose to 46,919 marks, being the greatest extent to which it has ever reached, and which gave for that year an overplus of \$400,000.

In the following five years, the works likewise made a considerable profit, the proceeds of the mine were between 20,000 and 30,000 marks annually; and in the years 1839 and 1840, it was above 30,000 marks, the profits in these two years being \$419,600. During the last few years, the production has been somewhat less; in 1841, it was 24,578 marks; in 1842, 21,150 mks.; in 1843, 20,454 mks.; and in 1844, 19,467 marks—making a total value of \$784,590 28½ skilling; the expenses during the same period were \$358,874 64½ skilling—so that the profits in these four years were \$425,716 84 skilling, being an annual average of \$106,435 81 skilling. As the Norwegian official reports are only published quinquennially, the exact results of the remaining four years will not be known until the close of the year 1849. In addition to the silver, copper has likewise been found; in the two years from 1807 to 1809, there was delivered to the mint 49,841 mks. fine copper, which produced 474 mks. 5 ozs. 11 grs. of silver, which will be nearly 2 mks. of silver to the 100 lbs. of copper; and from 1624 (the period of the first discovery of the mines), until 1825, when they were abandoned by the Danish Government, 2,360,140 mks. of fine copper were produced. Since that period but a small quantity has been discovered. At different times an inconsiderable quantity of gold has been found; some of this Christian IV. caused to be coined in the so-called Brille ducats, which bear the device of "Vide Mira Domi." The mines which at present are worked, are the "Armens Grube," so called from being originally apportioned to support the poor, "Kongens Grube," and "Gottes Hulfe, in der Noths Grube." The formation of the country is gneiss, and the lode, which is in felspar, contains argentiferous gold, or electrum, native silver, black and red sulphuret of silver, copper and iron pyrites, and blende, disseminated through it. This is called the Fahlaand, which is a certain range of the strata from 10 to 60 fms. broad; the vein does not bear silver when it leaves this; 100 lbs. of the Fahlaand never contains less than ½ oz. of silver. The veins become metalliferous as they cease to run parallel with the cleavage of the felspar in the gneiss. The dip of the strata to the east is from 50° to 80°. The principal mine at present worked is the Armens Grube; the entrance to this is by a high and broad level, commenced in 1716, by Frederick V.; it is about two English miles long; at the termination of this the shaft commences; there are several levels branching off at various distances from the surface; the descent to the bottom of the mine is by 42 ladders, averaging about 5 fms. From this mine the richest pieces of native silver have been produced; there is now in the Royal Museum of National Antiquities, in Copenhagen, two specimens, the one of 6 ft. long, 2 ft. broad, and 8 in. thick; although there is attached to this some of the matrix, it is supposed to be nearly all silver; the other, which is smaller, being about 18 in. high, and 12 in. length and breadth, is perfectly pure. But little blasting is exercised in the excavation of the rock; the method generally pursued is that of burning. On Saturday, at noon, at which time the workmen leave the mine, large quantities of wood are placed against the portion of the rock to be broken out; this is ignited; on the Monday following, while the rock is still warm, the workmen commence his operations. In some instances, where it is very stubborn, gunpowder is used; but the excavations are in general so large, and the ventilation so good, that very little inconvenience is, at any time, felt by the miners from this process; candles are not used here, small bundles of wood being substituted in their places. An adit is being driven to connect the three mines, and to prove the lode further down. Within a short distance of the mines are lodging-houses for the miners who remain here the whole week, absent from their families, and who are all searched as they return home. Their pay is about 1 mark (10*d.*) per diem, but as they are supplied by the mines with provisions at a cheap rate, this is considered sufficient. On the road to the mines you pass the roasting-house, washing-house, and stamps, all of which are guarded by armed men. The average produce of the stamps from 5463 barrels of ore was 13,893½ cwt. of slime, which gave 19,948 marks of fine silver. The smelting-works are situated in the town, the furnaces are built of gneiss; previous to the year 1840 they were in very bad order, but since that period they have been entirely reconstructed by M. Sinding, on the model of the Royal Saxon Works, at Freyberg, that gentleman having been dispatched thither by the Norwegian Government, for the purpose of improving the smelting processes at Kongsberg. The royal Norwegian Mint, situated here, is under the management and superintendence of the directors of the mines. The Government powder-mills, which are at some distance from the town, are under the same control. The population of the town is about 5000 souls, who, directly or indirectly, depend on the mines for their subsistence. About 700 labourers are employed at the mines and stamps, 18 to 20 at the powder-mills, and 25 to 30 at the smelting-works. The smelting generally takes place twice a year, and averages about two months each period. The consumption of fuel is about 5000 lasts of charcoal and 8000 fathoms of wood annually. There are about 25 officers in the dif-

ferent departments, who are under the supervision of three directors, who again report to the Royal Finance Department, in Christiania. The directors have about \$1000 per annum, besides free house and other privileges. All the officers are appointed for life, and cannot be dismissed without a court of inquiry. There is no difficulty in strangers gaining access to the mines and other works; by applying to any of the directors, permission is readily given.

By a clause in the Norwegian mining laws, no one is allowed to take up (*muthe*) a mine for silver in Kongsberg, and the three adjacent parishes. About two years since, one of the most influential merchants of Drammen, who had discovered a silver mine on one of his own estates, situated within the prescribed boundaries, was prohibited by the Government from working it.—C.: London, Dec. 11.

CARBON AND IRON.

SIR,—In my late father's consideration of the combinations of carbon and iron, it very early occurred to him to suppose that the peculiar qualities of steel might be derived from the existence of carbon therein in a aeriform state; but, on further investigation, he abandoned the notion, ascertaining that every variety of steel, as well as cast-iron, could be produced by a similar act of fusion. He considered the following simple experiment decisive on the point:—A bar of polished steel being immersed in water until a coating of oxide is formed, there is found, on removing the scale, a deposit of impalpable carbon resting behind it on the surface of the steel. The existence of gaseous carbon in any of the forms of solid iron is inconsistent with the known properties of bodies. From the strictest analogies, we must conclude that the mode in which carbon enters into combination with iron is the same in every stage, and that from white-iron, through every grade to wrought-iron, the quality, so far as carbon affects it, is derived from proportion only. The mode of this combination is, however, extremely remarkable, because it is not merely by a fusion, in which the particles of iron might be supposed to come in palpable contact with the carbon, that they unite, but a continued heat, where the surface of the metal only is in contact with the modifier, and where that heat is not sufficient to alter the form of the metal, will produce as great an amount of alloy as actual fusion. And, what is more, it seems necessary that that combination shall absolutely be effected before there is any intermixture by fusion. It seems hard to explain this, except by the carbon passing in a gaseous state into the pores of the metal—a view which is confirmed by the effects of the late Mr. Mackintosh's process for effectually converting bar-iron, by exposure to carburetted hydrogen gas. Now, whether carbon has by itself the property of assuming a gaseous or sub-gaseous form when intensely heated, or whether it takes this form under the exercise of the affinity of iron, or whether the finer particles which are present are absorbed by a capillary attraction of the metallic pores, under this affinity, are all points open for consideration. We have no evidence for supposing that carbon does by itself possess a gaseous capacity, even of the most limited expansive power; there is no appearance of any such change having passed on particles which are of an appreciable size or form. We might suppose that the long cementation required to effect a combination, arises from the slow process of attaching and absorbing particles sufficiently minute for the absorption. But, if this consideration led us to adopt the third theory, we are met by a strong presumption in favour of the second—that carbon, during the combination, does exist as a true fluid; for how else are we to account for its transformation into the crystals of graphite in grey pig-iron? Some of the difficulties, which existed in a former correspondence on this subject, as to the manner in which graphite is generated, might be explained by such a theory. I have never seen the mere exposure to heat induce upon carbon the least tendency to the appearance of graphite. But if iron, by its affinity, has the power of inducing on carbon a gaseous or fluid condition, some clue might be afforded to the production, or condensation, of this very peculiar exhibition of the substance. So necessary is the presence of iron to the development of graphite, that I am not aware it would be incorrect to define it as a form which carbon assumes on passing through or from the pores of iron, saturated with carbon and intensely heated. This uniform presence of iron, or its development, gave rise to the belief that plumbago, or graphite, was a true carburet of the metal. Though accustomed, as we all have been, to the belief that grey-iron was caused by the highest degree of its saturation with carbon, I do not perceive how, under the present facts of analysis, it is possible to resist acceding to the views of Mr. Mitchell. It has been determined that the substance, whose combination furnishes the characteristics of grey cast-iron, is not, as was believed, a carburet of the metal; it is also ascertained by analysts, whom it is as much to the purpose to refute by mere assertion as to deny the whole results of modern chemistry, that grey-iron does not possess the maximum point of saturation. It becomes, therefore, absolutely necessary to find a new explanation, and we ought to hail gladly both the new facts and the new theory, because the old are confessedly quite inadequate to explain all the accompanying phenomena. The mere presence of a per cent, more or less, of carbon has long appeared a most insufficient apology for the many singular practical differences evinced in the manufacture of grey and white-iron. The most paradoxical form, which the results of analysis can assume in the hands of an objector, is this:—The combustion of, say, 5 per cent. of carbon constitutes white-iron, a diminution of this proportion gives steel-grained infusible iron, and the same diminution gives also a most opposite product—namely, grey fusible iron—a uniform cause with varying effects. But this stumbling-block vanishes at once, if we consider the circumstances of each result. Steel-grained is produced, not only by the combination, but by the presence of an inferior amount of carbon; grey cast-iron, on the contrary, requires the presence of a maximum dose of carbon. This last fact most naturally led to the conclusion that there was also a maximum combination; but, being contradicted by the facts of analysis, the true conclusion remains, which is, that a larger quantity of carbon is required to enable the iron to exert that peculiar affinity, or repulsion, under which graphite is evolved. The explanation given by Mr. Mitchell, of my father's experiments on the reducing powers of the different grades of iron, is entirely consistent with the previously-known facts of the process, and is consistent likewise with the new facts which chemical inquiry has established. We are not yet able to explain what the process is; but we must take it as a fact, that when iron containing its maximum combination with carbon is exposed to the continued heated contact of that substance, a new series of reactions is established, and the carbon, to use a former phrase of Mr. Mitchell's, begins to "crystallize out" in the form of graphite. To what extent this change may be carried, and in what state of combination the remaining carbon exists, has not been ascertained, any more than an accurate knowledge of what is the state of combination in white-iron. It would appear, that the increasing interposition of graphite in the pores of fluid iron exercises a repellent power. In the crucible, when the carbon is greatly in excess, the iron of the assay is found scattered in globules more or less minute through the result, there is an evident difficulty to aggregate. It is impossible to push this effect to the same degree in the blast furnace, on account of the nature of its constant action; but there are facts to show that the tendency is the same. An analysis of different grades of grey-iron formed in the crucible, either by assays of a uniform ore, or by fusion of iron filings, with increasing doses of carbon, would throw much light upon the extent to which the formation of free graphite can be carried, and to what extent it is followed, by a corresponding diminution in the quantity of carbon combined (whatever that state may be), as in white-iron. Neither can we explain by what operation the iron has the power of converting the carbon which enters it into the new and highly incombustible form of graphite. It is evident the change is not induced by the cooling of the iron; for in a furnace, working on high smooth-faced metal, the particles of *keesh* are poured from the interior wherever they can have a vent, the cokes are spangled with them, and they are found deposited by the escaping currents in every part of the building. Their flat and flakey form gives the impression of being evolved under pressure, as if liberated in the mass of fluid iron lying in the hearth, and escaping upwards by their specific levity, until scattered in every direction by the blast. The largest portions are obtained under masses of cinder, which have covered fluid iron—a position where more prolonged fluidity may favour separation, and where there is more protection from disturbing, or decomposing, agencies. Indeed, when this occurs, it is mostly, if not always, at the close of a cast, when the last portions of iron flow out covered with the cinder, showing the graphite has been floating within, betwixt the cinder and the iron. It thus appears the characteristics grey-iron exhibits in its subsequent use, as well as the effects accompanying its production, arise from a combination with this, the most incombustible form of carbon; while the oxidisable varieties of iron and steel derive their character from a union with carbon in the ordinary oxidisable condition by which it is familiar to us. Finer metal, which displays in the most perfect degree the silvery foliated fracture which marks white-iron, ought to be white-iron in its most per-

fect state; and accordingly, in unison with the results of analysis which Mr. Mitchell advances, we should expect to find that it contains the maximum combination of this state of carbon.

The process of refining, which has been treated as merely the deflagration of the superfluous carbon, is not, if considered, really inconsistent with such a result. A portion of pig-iron is melted down with coke or charcoal. The best and purest coke is found to be most effective in the process. When the fused iron has sunk into the hearth, that which has been considered merely a decarbonating process begins. The blast, which is in great quantity, is arranged to bear down upon the surface of the metal, kept constantly moved, the more to expose it to a most intense temperature. This, probably, may be needed to destroy the graphite; but considering the close contact of carbon in a pure form at a very high heat, and the large proportion of the original iron which is subtracted by oxidation, it is not irrational to suppose that the remaining quantity may exist, in the first stage of finers' metal, in its maximum state of combination with oxidisable carbon. Subsequently, if the process be continued to high-blown metal, there is unquestionably a true decarbonation. There is also, there can be little doubt, a true refining process, in which the metals and earths, without affinity for carbon, especially silica, which may have been alloyed, or incorporated, with the iron in the blast-furnace, are carried off in the highly oxidised cinder, giving refined iron that preference for choice uses, which distinguishes it from iron puddled by late processes from the pig. But whatever the transitions really are, it is certain the analyses of finers' metal of the first stage would throw a great deal of light on the present controversy. It is that condition of the alloy of iron and carbon which exhibits in the most marked, perfect, and decided degree those features by which white iron is described; and it is, therefore, reasonable to expect that the analytical conditions constituting white iron will be here found in the maximum degree also. There are instances on record where cast-iron has been found converted into plumbago, as it was then called. Have these cases been since tested by the lights of more advanced chemical knowledge? The guns of the *Royal George*, for instance, were said to be raised up so converted. Can Mr. Mitchell say what the substance really was? had the particles of iron been dissolved out, leaving the bulk of the graphite in the form of the casting?—DAVID MUSHET: Dec. 5.

CARBON AND IRON.

SIR,—Pure graphite is neither more nor less than pure carbon. If it contains any iron, it arises from an accidental mixture with that substance, and does not contain it as a necessary constituent. Since replying to Mr. Mushet, in your Journal of the 2nd inst., I have commenced a series of experiments on the subject of that communication, and which I hope will clear up everything that may there appear doubtful, and which will enable me to more completely answer Mr. Mushet's experiments and remarks. I may mention, in reply to the observations of a "Subscriber," that I do not think the actual amounts of carbon in any sample of iron determines its characteristic quality—that depending not so much on the amount of carbon as upon the manner in which it is combined with the iron. In some ensuing papers the cause of malleable iron becoming red short is practically investigated.—JOHN MITCHELL: Hawley-road, Kentish-town, Dec. 12.

IMPROVEMENTS IN SMELTING IRON ORE.

SIR,—There is a description of iron ore, in the county of Durham, called by the miners "ryder." In many places, it is at present worked 40 ft. thick; and so short a distance from the surface does it lie, that it is worked in open cuts, or quarries. I understand that great difficulty has been found in smelting this ore, owing to its being mixed with other metals prejudicial to iron—zinc in particular. Mr. John Sturge, at the works of Messrs. Bolckow and Vaughan, at Wotton Park, near Durham, has completely surmounted these difficulties, and is now making excellent iron from this stone—much stronger than the Scotch, and fit both for cast and malleable purposes, as I have seen and tried. This will form an important item in the iron trade, particularly in its make in the county of Durham, where the ore is so very plentiful, that it can be worked in some places at 1*s.* per ton! The Derwent Iron Company have given up using it for some years—being unable to extract the iron. The Weardale Iron Company, at Stanhope and Tow-law, are also unable to manufacture a good article from it—their furnace being continually out of repair from some noxious mineral in the ore—all attempts to destroy which having proved as yet ineffectual. Mr. Sturge, the person who is now running pure iron, has, I understand, raised himself by his unwearied application to chemistry, particularly the analysis of the minerals of his native vale. He was presented with a valuable gold watch, a few years since, by the inhabitants of Weardale, for his valuable discoveries; he was also, I am informed, the originator of the Derwent and Weardale Works. I will communicate some further particulars shortly.

Southwark, Dec. 12.

H. T. ARNISTON, C.E.

THE COPPER TRADE.

SIR,—In your Journal of last Saturday, I find a letter transferred from the columns of the *West Briton*, on the subject of the copper trade. I would freely have allowed the correspondent of your contemporary to evince "the interest he feels in all that affects his native county," and to display his "intimate acquaintance with the copper trade," enjoyed (as he says) from his "early years," had he not made an assumption without just grounds, and shown himself to be the advocate of rather peculiar principles. He says, that "there exists a surprising ignorance of the plainest facts and details of the copper trade;" and he directly alludes to a speech made by James Wyld, Esq., M.P., at a meeting of a new British smelting association. In reference to the quotation which he makes from that speech, he remarks, that "the hon. Member for Bodmin, no doubt spoke as he was instructed and believed, but he spoke in error;" and he assumes that he was "the exponent of the views of the new smelting company." Now, as far as I have been able to gather from the public reports of that meeting, there was at that time no company in existence—the necessity of such a step was only discussed; in fact, it was then only in "Bud(d)." I should imagine, that the views of the company will entirely depend on the sentiments of the majority of those who constitute the future board of directors, and that they will not consider themselves bound by any individual opinions expressed at a preliminary, and, apparently, a public meeting.

Mr. J. Palmer Budd next refers to the standard, and the 2*l.* 15*s.* returning charges; and in reading his remarks on this point, one cannot help thinking that they savour strongly of the "Brammagen school of currency." He says, "I have often thought that this practice of publishing a fictitious price, or standard for copper, were better honoured in the breach than in the observance, and as it is obnoxious to many of the miners, I would suggest that the practice be discontinued!" Then, why should there be a standard for gold? Mr. Budd, if he is consistent, must have the same opinion with regard to it. Some people consider that the standard of the latter should not be fixed at 3*l.* 17*s.* 10½*d.* per ounce, or any other price: to please them, are we, therefore, to discontinue it? No; in my opinion the representative of value must itself have some known value. Whatever is used to represent money must have an intrinsic value attached to it, regulated by fixed rules. I do not wish, however, to enter fully into this topic, as I do not think it necessary for my present purpose, I shall simply express a hope that there will still be continued a standard for copper, but that it will be regulated by very different principles than hitherto.

But, Sir, Mr. Budd has evaded the real "practice," which is "obnoxious" to the miner. When a person takes great pains to elucidate that which most people already understand, but which has little or nothing to do with the matter in hand, he is commonly, but very vulgarly, said to have "found a mare's nest." What the miners really complain of is, that the smelters abuse the power they possess, by not giving the former a fair price for their ores, in proportion to the value of the metal. Is this the case, or not? In the debate on the Copper Duties Bill, I find that the late lamented Member for King's Lynn stated, that "Since 1842, the price of copper ore had fallen from 84*l.* 12*s.* 5*d.* per ton (of copper) to 56*l.* 17*s.* 8*d.*, being a diminution in price of 27*l.* 14*s.* 9*d.*; while the price of copper had only fallen from 90*l.* 10*s.* to 79*l.* 10*s.*, being a falling off of only 11*l.* in the copper, compared with a falling off of 27*l.* 14*s.* 9*d.* in the ore." These facts speak for themselves, and prove that the complaints of the miner have some foundation. There ought, certainly, to be some fixed and uniform regulations, by which the price of the raw material should bear some proportion to that of the manufactured article.

If the smelter would uniformly sell his copper at a moderate price, he would, no doubt, greatly increase its consumption, realise eventually equally large returns from the extension of his trade, and create a greater demand for the miner's ore. I am happy to find, that by the last sales in Cornwall, the prices obtained were as high as could be reasonably expected.

with the present low price of copper. I only hope, that if the smelters should resolve to raise the price of the latter, they will give some proportionate advantage to the miner. The capital to be introduced by the new company must, or ought to, benefit both parties, as it will relieve the present smelters from holding at times such large stocks, and thus enable them to afford better prices.—*PLAIN FACTS: London, Dec. 13.*

COPPER SMELTING.

SIR.—There is a general impression that the profits of copper smelters are enormous; much has appeared in your journal to confirm this, and as there is now a very favourable opportunity of employing money in this trade, through the company being formed, I have been endeavouring to make myself master of the subject, as far as the weekly publication of cost of ores, and the market price of the product is concerned; and I will submit my view of the same, based upon these figures, for the consideration, and I hope explanation, of some of your practical friends; for either I am in error as to my calculations, or the general impression I have alluded to is an erroneous one; and although I hate monopolies, I am a great admirer of the truth, and I cannot suppose all that has been stated of these smelting lords is untrue; but at present I do not see sufficient inducement for myself and friends to embark our capital in the proposed company; and I have no doubt many others take the same calculation and views of the affair. I shall quote from your Journal of the 9th inst. and 25th Nov. last, the information therein contained of the sales at Truro and Redruth respectively, with my method of calculating them. I drop the phantom standard altogether, and ascertain how many tons of ore a man must pay for to produce 1 ton of copper, and what this will cost him, and then deduct such cost from the market price of copper, also quoted in the same Numbers of your Journal: thus, at Redruth, on the 9th inst., the produce is 7½ per cent., and the cost 4l. 6s. per ton—consequently, to obtain 1 ton of copper, 13½ tons of ore, within a fraction, must be purchased, amounting to 58l.; now, the average price of copper being 79l., there remains 21l. for the smelter.

At Truro, on the 23d Nov., the produce was 10½ per cent., and the cost 6l. 4s. 6d. per ton—consequently, 9½ tons will be required for the ton of copper, the cost of which is 57l. 12s., leaving again 21l. 8s. for the smelter. Now, if the 2l. 15s. (so much talked of) per ton of ore was really deducted from the miner, it would, in the first instance, amount to 37l. 2s. 6d., and in the latter 25l. 8s. 9d. After calculating the expenses attending the smelter's plant, labour, capital, coal, and other materials, besides the risk, credit, and transport of the produce, I consider the profit is not such as to justify me in incurring the risks of a joint-stock undertaking. If I am wrong in my data, or have omitted anything in my calculations, pray set me right; but I have made the same calculations over many of your reports with a very similar result. Then, again, the company propose to give up a portion of these exorbitant profits to the miners, which must make the benefits less. Perhaps, the profits would be improved, if the average price of copper was calculated upon what is termed best selected; but this appears to be out of the market; at all events, it has not been quoted in your price list for many weeks past. How is this? Waiting the desired information, and what I believe will be acceptable to many other persons besides myself, I remain, Sir, your obedient servant,
Dec. 13. P. I.

BRITISH COPPER SMELTING COMPANY.

SIR.—In your Journal of the 18th ult., at a preliminary meeting of the above body, it is reported that the chairman, James Wyld, Esq., M.P., should have stated, "the Hamburg Copper-Works are about being stopped." In a letter of the 5th of this month, received to-day from one of the parties concerned in these works, I beg to inform you, that such is not the fact; the proprietors are doing much better than they expected, according to the times, and the copper in the German market is fully equal to the Russian. As a remark such as the above, in so widely diffused a journal as yours in the mining and commercial world, is calculated to do them an immense injury, I have been requested to contradict it.
Dec. 11. GERMANICS.

DISTILLATION OF PEAT.

SIR.—It is with much pleasure that I sit down to reply to the questions addressed to me, in your last Journal, by your correspondent, "W. G.," and this, the more particularly, as his mode of putting them betrays the pleasing fact, that he is a member of our gentle craft—chemistry. Before entering upon them, however, I wish one fact to be clearly understood—namely: that my experiments, whether in the small crucible and glass retort of the laboratory, or the spacious ovens and condensers of Shipley, in which tons are at once operated upon, have been nearly exclusively confined to the peat of Dartmoor. This is the more needful to be borne in mind, as the character and composition of our peat, and the results of its analysis, differ so widely from those obtained by that very able and accurate analytic chemist, Dr. Kane, on examining the produce of Irish bogs, that great care will always be required in not rashly taking for granted the facts relating to one peat district, as necessarily applicable to another. Another circumstance, too, I find produced great discrepancies in the results of my own experiments—and that is, that peat thrown into a cool retort, and gradually heated, yields products, materially different from those obtained from peat cast into red heat, like those used in ordinary gas-works. To come, then, to your correspondent's first question: Peat taken from the upper portion of the beds, and worked in a cool retort, does produce a sufficiency of pyroligneous acid to neutralise the whole of the ammonia, and leave an acid solution, instantly reddening litmus paper; but in nothing like the quantity obtained from the distillation of wood. On the other hand, if what we esteem the best peat—viz.: that solid buttery substance, cut from the lowest portion of the beds—be placed in a red-hot retort, it yields so little acetic acid as to be with difficulty traceable. I never yet, during our operations, witnessed the production of so much pyroligneous acid as to lead me to the belief that it could ever become a profitable article of commerce. Still, let it not be forgotten that my experience is very partial, and that another peat containing more vegetable fibre, and less nearly approximating to the nature of coal, may, when subjected to distillation, produce widely different results.

Your correspondent's next question relates to the quantity and quality of the stearine, or vegetable tallow. As our large operations have been confined to the production of charcoal, my knowledge on this subject has been obtained chiefly from very small experiments, and can only be regarded as an approximation to the truth. The mixed mass of inflammable substances—naphtha, tar, oils, and stearine—yielded by any given quantity of our best deep peat, is about 2½ part of its original weight. Of these I consider rather less than a third to be stearine; but, until I have opportunity to verify experiments, hitherto tried hastily and imperfectly, as my main objects have been charcoal and gas, I am by no means sure that the stearine I obtained was perfectly free from the admixture of other oils. Be that as it may: it has the appearance of pure tallow, burns brightly and with little smell; and will be well worth the trouble of accurate examination by any of those parties who are seeking to devise commercial advantage from the hydro-carbon and other condensable products of peat. At present, our efforts are exclusively directed to its charcoal; and it was with unalloyed pleasure that I read, in your last Number but one, the satisfactory and convincing proofs of its extraordinary deodorising qualities, so accurately and scientifically described by your truly valuable correspondent, Dr. Murray. If these imperfect replies to "W. G.'s" queries, on a manufacture so decidedly in its infancy as is that of the products of peat, afford him either pleasure or knowledge, I shall esteem it a privilege to have returned to your Journal a modicum of information so trivial, when compared with that which I have derived from a constant perusal of its pages.
J. W. HODGETTS.

PEAT-MOSS.

SIR.—The products of the distillation of peat must ever be complicated—vary, according to circumstances, and may be even modified, if not actually formed, in the process itself. The composition of peat-moss is very variable. Sometimes its chief constituent is sphagnum; and at other times it is absent. Its antiseptic properties have been often referred to in the state of preservation in which various articles have been found, either imbedded in its substance, or immersed in its waters. I remember in boyhood to have seen what appeared to have been once butter, converted into a substance very much resembling tallow, and taken from a bog near my native town. It was contained in a wooden vessel. Flint arrow-head—Scotic, elf, or elfin, stones—are occasionally found; and the peculiar gout, called "peat-neek," imparted to "Glenlivet," "Fermos," and other kinds of Scotch whiskey, is attributable to the peat employed in the kiln as fuel in the process of malting. I am quite sure the compression of peat, and its conversion into coke, are as important questions, as they must become profitable speculations.
J. MURRAY.

ELLERMAN'S PATENT "DEODORANT," &c.

SIR.—The products arising from the action of Ellerman's perchloride of iron on night-soil, the contents of cesspools and sewers, &c., have been recommended to the agriculturist as valuable manures, under the names of "Pandrette," and so on. It is known I have given an opinion adverse to this assumption, as founded on numerous experiments made on vegetation with salts of iron, which I regard as generally, if not always, noxious, and even poisonous, to vegetation; and, if a corroboration of my views were wanting, it is amply supplied in the recent experiments of my friend, Professor Bojer, in the Mauritius. The sugar-cane is subject to a disease called chlorosis, and sulphate of iron had been recommended as perhaps remedial; but M. Bojer has shown that sulphate of iron completely blackens the foliage of the sugar-cane, and very properly cautions the planter against its use. The products arising from the employment of peat-charcoal are not only less questionable, but, as appears to me, eminently fitted for the requirements of vegetable life.—J. MURRAY: Portland-place, Hull, Dec. 12.

SIR WILLIAM BURNETT'S CHLORIDE OF ZINC, &c.

SIR.—It is not the first time that your correspondent, Mr. Glass, has come forward to the rescue of Sir W. Burnett: it is far, however, from my purpose to prefer an invidious comparison between Burnett and Ellerman. All, therefore, I mean to say is, that I believe the chloride of zinc of the former, and perchloride of iron of the latter, are equally ineffective, considered as true disinfectants, in the legitimate sense of that term, and are "broken reeds" in scarlatina, typhus fever, and cholera. Both of them may be useful, *pro tanto*, in subduing fetid emanations; but *fator*, and the principle of disease in cholera, &c., are not one and the same, nor are they even analogous; they may be auxiliaries, though they imperfectly perform their functions in attenuating the virulence of predisposing causes, which increase the susceptibility of the system to the attack, or aggravate the type of disease. This is all that can be honestly claimed for either the one nostrum or the other; and, therefore, it is I wish to see things called by their right names.

Sir W. Burnett did obtain a patent for chloride of zinc, as an antiseptic, as in the case of timber, cordage, &c., in reference to dry-rot, mould, &c.; but I have yet to learn that he has any patent for its application as an assumed disinfectant. I cannot understand why it should be called "Sir W. Burnett's Patent Disinfecting Fluid," when there is no patent in the case; and Mr. Glass intimates that there are several "imitations and modifications of Sir W. Burnett's chloride of zinc offered for sale." Any chemist, I presume, may make the chloride of zinc, and any person may employ it in reference to the question of disinfection, as well as Sir W. Burnett; but no person may employ it as an antiseptic, without permission of the patentee. If, however, Sir W. Burnett has a patent also for its use as a disinfectant, the case is altered, though Mr. Glass is not warranted in leaving it to be implied, or inferred, that the experiments made at Stourbridge were not fairly made, as far as the chloride of zinc was concerned.
Portland-place, Hull, Dec. 12. J. MURRAY.

WATER-WHEELS.

SIR.—In reply to "J. W. W.'s" question, inserted in your Journal last week, respecting the difference of power of a 35-ft. overshot water-wheel, and a 40-ft. breast wheel, with the water laid on 35-ft. high, I believe a 40-ft. wheel will be found to possess considerably greater power. I am inclined to think that the difference between an overshot and breast wheel, if the water is properly laid on, at the same height on both wheels, is very trifling. I send you the calculations, I have made, for insertion in your next Saturday's Journal, should you think them worthy of a place in it.

A 35-ft. wheel (say) 4 ft. wide, buckets 1 ft. apart, with a 4 ft. crank— $35 \times 22 \div 7 = 110 \div 4 = 27$, number of buckets filled with water, and (say) 196 lbs. of water in each bucket; $35 \text{ ft.} \div 2 = 17 \frac{1}{2} \text{ ft.} = 13 \frac{1}{2} \div 3 = 4 \frac{1}{2}$, power of leverage on 4 ft. crank.

Then $196 \text{ lbs.} \times 37 \text{ number of buckets} \times 4 \frac{1}{2} \times 8 \text{ ft. stroke} \times 4$, revolutions per minute = $104,428 \div 33,000 = 31 \frac{1}{2}$ horse power nearly.

A 40-ft. wheel, same width, with same stroke— $40 \times 22 \div 7 = 126 \div 3 = 42$, number of buckets filled, with 196 lbs. in each.

$40 \div 2 = 20 \text{ ft.} = 16 \div 3 = 5 \frac{1}{3}$, power of leverage on 4 ft. crank.

Then $196 \times 42 \times 5 \frac{1}{3} \times 8 \times 3 \frac{1}{2} \text{ revolutions} = 1,221,628 \div 33,000 = 37$ horse power.—H. T.: Mold, December 12.

WATER-WHEELS.

SIR.—In your Journal of the 9th inst. a correspondent, of Bodmin, giving as his initials "J. W. W.," expresses a wish to be furnished with the difference in power of two water-wheels—the one 35 feet in diameter, with the water running over it; the other 40 feet in diameter, with the water brought in at the height of 35 feet, or 5 feet below the top. Of course, he means that the rings shall be the same depth, and the buckets the same dimensions in both cases, also that the bearings shall be proportionate to the size of the wheel. Premising this, I calculate the power of the 40-foot wheel to be about one tenth over the power of the 35 feet—thus, for example, if the 35-foot wheel will lift, say, 9,000,000 pounds a given height in a given time, the 40 feet will lift 10,000,000 the same height in the same time; or otherwise, if the 35-foot wheel will lift a given weight 9 feet high in a given time, the 40 feet will lift the same weight 10 feet high in the same time.—W.: Dec. 13.

CORNWALL RAILWAY—No. 1.

SIR.—It has been, and still is, a subject of regret with the Cornish population that, after so much money has been expended in Parliamentary expenses, and in the contest between this company and the late Central company, no railway is in progress to supply the urgent wants of the county. I informed you, in a former note, that all operations on this line had ceased, and that of a resumption thereof little, if any, prospect existed. Many of your readers may not be acquainted with the events of 1844, 1845, and 1846, with respect to projected railways through Cornwall; and, therefore, it may not be amiss for you to insert this communication in your Journal, to furnish them with a few of the circumstances preceding the attainment of the Act of Parliament for this line. I might go further back, and state that the first attempt to get a railway communication for Cornwall was in 1836, when, during that first railway mania, a company was formed, entitled the "London, Exeter, and Falmouth Railway Company," whose object was to construct a line from the South-Western Railway, at Basingstoke, to the port of Falmouth, at that time the packet station. At the same time, it was also proposed to have another line, called the "Truro and Penzance Railway," with a breakwater at Penlee Point. Plans and sections were duly deposited, with one remarkable exception. When Mr. Andrews, a London solicitor, was on his way to town, with a copy for deposit, a storm arose, and blew down a tall tree directly across the turnpike road, which detained him so long, as to make his arrival in town later than 12 o'clock at night! but as no opposition (!) was raised against the bill, the standing orders were declared to have been complied with. The bill was brought into the Commons House, and read once. I will now inform you the reason of its not passing.

The shares were nearly all taken up; but with a view to selling, as has been done since, they were taken up in such large masses, that it was not in the power of the holders to pay the calls that would be made; therefore, some of the large holders, fearing the consequences, resorted to the unusual course of defeating their own measure, and in this they were successful. In 1840, a meeting of the principal landowners, merchants, and others favourable to a railway through Cornwall, was held at Bodmin (or Truro), for the purpose of considering the subject, and of adopting measures to obtaining the object. A subscription was made of about 2000l., to pay for surveys, &c., which were made; but no company was formed, nor even a prospectus issued. There the subject dropped, it appearing to the promoters that the time for a railway through Cornwall had not arrived. In 1844 the mania again returned with additional violence. A company might be had for any line of railway, even from Dover to Calais. A meeting was again held of the county gentlemen, and it was resolved that the time had arrived when the undertaking should be entertained with more earnestness than ever before. A committee was formed for carrying out the resolution; it was understood that the line was to be a central one. However, the committee, without issuing a prospectus, accepted an offer from the Great Western Company, who agreed to take a large interest, if the line were to be connected with the South Devon line. To this connection the committee agreed—a central communication was, therefore, abandoned by them. The central friends, finding this was the case, issued a prospectus for a central line, which was headed with a long list of respectable and influential landowners and others. The solicitors were Messrs. Barr and Tilly, Falmouth; the solicitors of the south line, called the "Cornwall Railway," were Messrs. Smith and Roberts, Truro.
Truro, Dec. 9. A READER.

THE ECONOMY OF THE VOLTAIC LIGHT.

SIR.—After having had the pleasure of witnessing the sustained brilliancy of Mr. Stait's voltaic light, I have been induced to enter into some further calculations regarding the probable cost of lighting by voltaic electricity. If it be admitted, that the difficulties attending the use of iron in the ordinary fluid of the battery will soon be overcome (as, doubtless, they will, after a few months, steady experimenting), then, in some localities, this new mode of lighting will be cheaper even than gas, which may be demonstrated, on a small scale, as follows:—A battery, capable of evolving 857 cubic inches of oxygen and hydrogen gases per minute, will, I believe, yield a light at least equal to 50 Argands (each of 20 holes, of 1½ in. of an inch diameter), which consume, of some kinds of gas, 250 cubic feet per hour, and will cost 1s. 3d., at the low rate of 5s. per 1000 cubic feet. The evolution of 857 cubic inches per minute of mixed gases requires about 4 lbs. of dry sulphuric acid per hour, or 9 lbs. 11 ozs. of "chamber acid," of specific gravity 1400, at 1s. 4½d. per cwt. = 1½d., and very nearly 3 lbs. of iron, which may be had at present, in South Wales, free on board ship, at 5l. 10s. per ton; but say 6l. 5s. = 2d., the solution of iron will produce 14 lbs. of crystals of copperas, at 20s. per ton = 1½d. It is obvious, from the quantity required of sulphate of copper, which is 12 lbs. 7 ozs., that this salt need not be crystallised where the solution of sulphate of copper is first made in the smelting of copper ores, as a supersaturated solution would most likely answer quite as well; and instead of being at any expense for this salt, it would be the converse, inasmuch as the battery would save expense by its extraction of the metal.

A very vague estimate can only be given respecting the probable cost of labour; but where so many as 100 batteries are constantly at work, perhaps an allowance of 6d. per battery may be tolerably correct. The mere cost, therefore, in some districts, for materials—minus the product, copperas—and labour for producing a light, which does not vitiate the air, and probably equal to 50 Argands, is only 8d. It is possible that the cost may be even less than this, as I believe the advantage of using copperas for making alkali to be very considerable. About 25 years ago, in a manufactory, skilfully conducted in the west of Scotland, copperas was used on a large scale to decompose salt to make alkali, without creating a nuisance. The copperas, in this instance, was obtained as a bi-product in the antiquated process of roasting alum schist for the manufacture of alum; but I believe it fell into disuse, in consequence of the great and rapid improvements in the making of vitriol, conjoined with the repeal of the duty on sulphur.

Now, however, the very low price at which copperas might be made, by turning to account the chemical action of sulphuric acid upon iron, would enable the chemical manufacturer to conduct his extensive works without a nuisance, and he would, in the very first step of the process of making alkali, save 12 cwt. of coal per ton of anhydrous sulphate of soda. It is very true, that the nuisance of the spirit of salt from chemical manufactories is very much less injurious to animal and vegetable life than some other nuisances; but the recent decision in a case of nuisance, for making alkali at Wakefield, now renders it imperative for chemical manufacturers to look out for some other than the ordinary process of making alkali.—WILLIAM BIRKMYRE: Dec. 14.

COMMUNICATION BETWEEN GUARD AND ENGINE-DRIVER.

SIR.—I see, in your last Number, a paragraph, copied from the *Staffordshire Courier*, wherein Mr. F. Whishaw, C.E., and Mr. Kinder, are represented as being the inventors of an apparatus for the above desirable purpose, which invention consists of "a gutta percha tube, of about half an inch bore, which may be fixed under or along the top of each carriage in the train; and at each end is attached a vulcanised India-rubber tube of the same diameter, and about 2 ft. in length, which hangs down at the end of each carriage, when not in use; but, when the carriages are to be connected, these ends are joined—the connection being only the work of an instant. The guard is placed at the end of the train, and he can thus communicate with the engine-driver by blowing through the tube." Now, Sir, it will be in the recollection of your readers that, in the month of January last, I published an invention precisely similar to this—by means of a cord, or chain, which would enable the guard not only to signal the driver, but, if needful, actually to withdraw the steam from the engine. I am now more than ever satisfied of its utility; for it arose from the circumstance of the engine-driver and stoker, upon the Liverpool Railway, being both intoxicated, and therefore insensible, to any speaking signal. It also appears to me desirable that passengers should have access to such cord, which would enable them, in case of accident, to signal the driver from any carriage. I am well aware that this power is thought objectionable, because it might be abused; but, on the contrary, it would enable more instantaneous notice to be given than could take place by any other means.—MATTHIAS DUNN: Newcastle-on-Tyne, Dec. 14.

RIDER'S RAILWAY BRIDGE.

SIR.—I beg to refer to Mr. T. Motley's several statements respecting the above bridge—that it is "somewhat like" Mr. Smart's; that it is "exactly on the same principle;" and then, that "the principal difference" is something which he will take "an early opportunity of explaining." Now, waiting for this explanation, I avail myself of your kind permission of sending my model to your office, in order, as Mr. Motley properly observes, that "your readers may judge for themselves," by comparing the two inventions with each other—a mode of investigation amply sufficient, in my opinion, in this instance, but which, nevertheless, will perhaps be rendered more sure by Mr. Motley's explanation. S. MOULTON, Patentee of Rider's Bridge, Bradford, Wilts, Dec. 12.

STEAM-CARRIAGES ON TURNPIKE-ROADS.

SIR.—In answer to your correspondent, "A. Z.," of the 9th inst., I beg to state that Sir James Anderson, Bart., has made great improvements in the steering apparatus, and which will remove every objection on that head. The objection to the plans hitherto adopted has been, that in locking the fore-wheels of carriages, in sharp turns, the fore-wheels are brought so nearly in a line with the centre, that the carriage has little better than three points of support, and is, therefore, very liable to be overturned. Another inconvenience arising from this method is, that it requires the fore-wheels to be made smaller than the hind ones. But the greatest objection is, that when one wheel meets with much greater resistance than the other, the steersman has not power to keep the wheels in their proper position, and several accidents have occurred from this cause. Sir James, in steering one of his carriages, some years since, met with a severe accident; the carriage was travelling at a high speed, when one of the fore-wheels came against an obstacle; the steering-cross was driven from his hands, and struck his side. He at once saw that this plan of steering was wrong, and altered it to the following:—The fore-axle is divided vertically in the centre, forming two separate axles; the pin on which they turn horizontally is placed close to the nave of each wheel—thus each of the fore-wheels revolve on the short end of a separate axle, the other extremity of which is attached to levers acted upon by a cross, worked by the steersman. By this means the two wheels will always stand parallel to each other, and the steersman will have perfect command of the wheels and carriage, in consequence of the great leverage this arrangement of axles gives him. It also affords a much larger base for the carriages, than any of the former plans. This plan Sir James has tried some years since, and he found he could steer the carriage with the greatest possible precision, in the most crowded thoroughfares. The real difficulty with steam carriages has been want of economy in applying the power and preventing the shocks arising from concussion on the machinery. Every other part is a matter of detail, and may be altered in a variety of ways to suit circumstances.

It has been stated by some, the boiler has been the greatest difficulty (the want of a sufficient repository for applicable steam, without too much encumbering with weight the carriage it is to drive). I had one of Mr. Gurney's boilers in use for above two years, to drive a stationary engine. It answered very well, and I have no doubt, that Mr. Hancock's, Col. Macchione's, and Mr. Ogle's boilers would answer equally well, although, in a steam-carriage, they did not work many days without repair. Sir James has a very beautiful plan of boiler, which will combine, in a very eminent degree, the greatest possible heating surface in the least space, when combined with the strongest mechanical form and facility of repair, and which, in combination with his system of changing the relative speed between the engine and carriage, will do away with the necessity of urging the fires going up hill, or over bad ground, or working the steam at different pressures; and which, with his system for preventing shocks to the machinery, will allow the boiler to work as long in a steam-carriage as when used for stationary purposes. The economy of steam over horses will be seen: 60 horses in a stage-coach, at 10 miles per hour, cannot work above 10 or 11 hours per day, from 25 to 32 horses are constantly required to work 8

proportion of Mr. Owen metal-master to the Board of Admiralty. In its present state, the machine consists of a pair of shears, formed of two spars, about 70 ft. long each, which are erected over a space previously prepared by earth and stones carefully rammed together, and covered by a platform of iron ballast. The anchor to be tested is then swayed up by a tackle as high as the shears will admit, by which its lower end is somewhat more than 50 feet from the iron platform. It is then stoppered with a slip-knot in the position called by sailors "a cockbill" and, on a signal given, is detached from its place, and precipitated on the iron mass below. On Friday, an old anchor was by this means broken in several places, and some of the iron ballast was also broken by the shock; but an anchor of more modern date, and which had been carefully prepared by a process of annealing, sustained the ordeal twice without injury. It is understood that this process has been adopted in consequence of an accident occurring to an anchor of the *Canopus*, by which that ship narrowly escaped driving ashore.

18, Wharf-road, City-road, and of any of their wholesale dealers.

prietors), at their offices, No. 26, FLEET-STREET, where all communications should be requested to be addressed. [December 16, 1846.]